

# Modern LITHOGRAPHY

JANUARY - 1952 - VOLUME 20 - NUMBER 1



Metal offset "decals", shown here in aircraft applications. (See Pg. 5 and 51)

## In This Issue

What's Densitometry All About? • Photo Tips on Duotones  
Vital Control Points in Offset • Pressroom Illumination

**Permanent Brilliant Green Lake 248 P-2**

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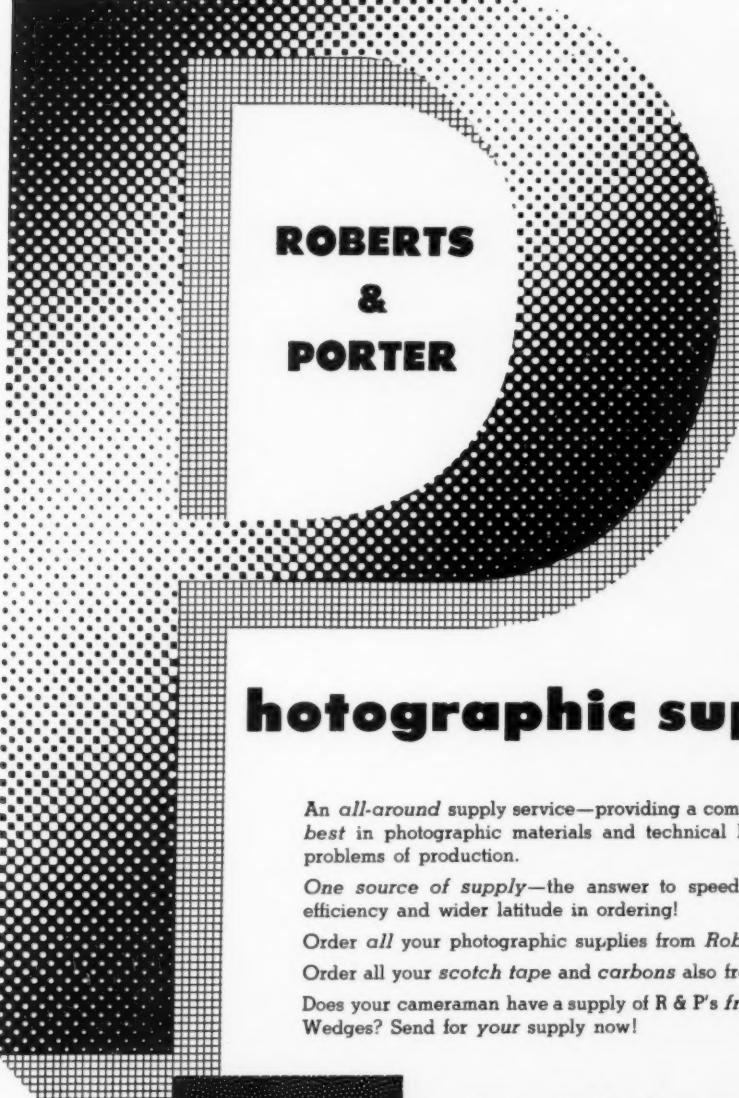
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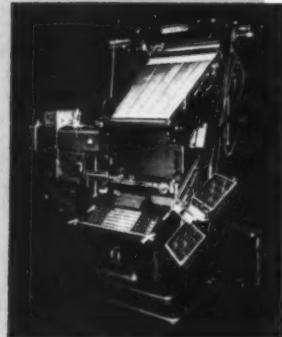
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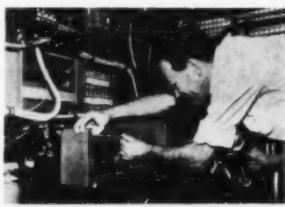
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# Modern LITHOGRAPHY



## THE COVER

A Metal-Cal, offset aluminum "decal" is applied to an auxiliary motor in a Boeing airplane, with others already in place. For other illustrations of Boeing's process, see page 51.

ROBERT P. LONG  
Editor

JOHN A. NICHOLSON  
Advertising Manager

CHICAGO OFFICE  
333 North Michigan Ave.



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## MODERN LITHOGRAPHY

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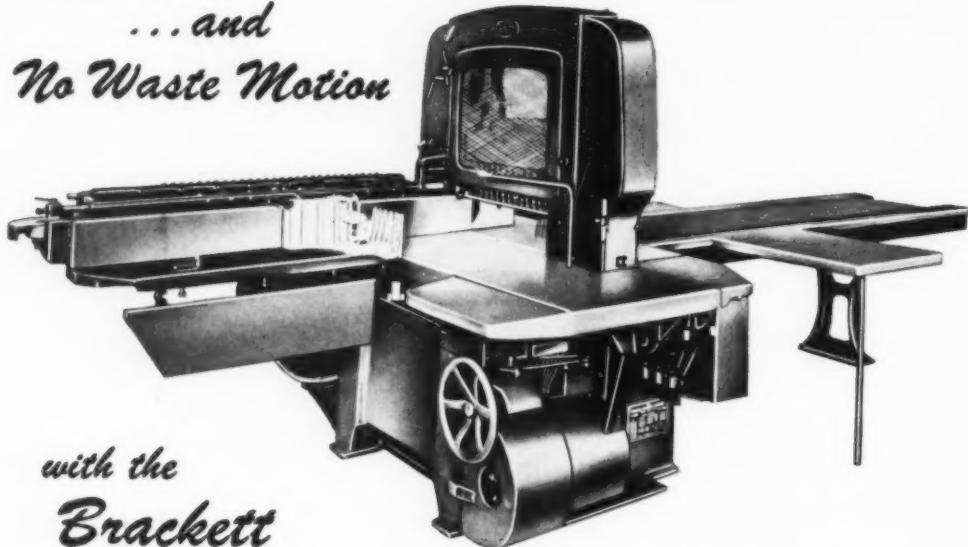
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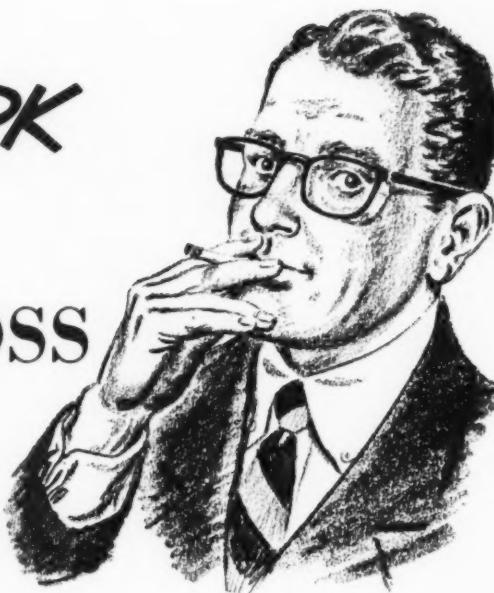
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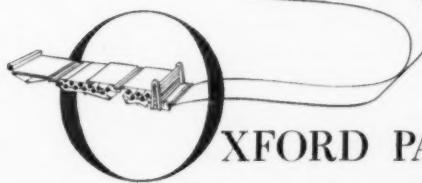


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YEARS ago when the lithographic process first made satisfactory color reproduction possible the number of colors available was limited to just a few shades. Today this number is virtually unlimited and, too, the quality of today's colors has improved beyond the most optimistic expectations of the lithographic "pioneers".

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## Sinclair and Valentine Co.

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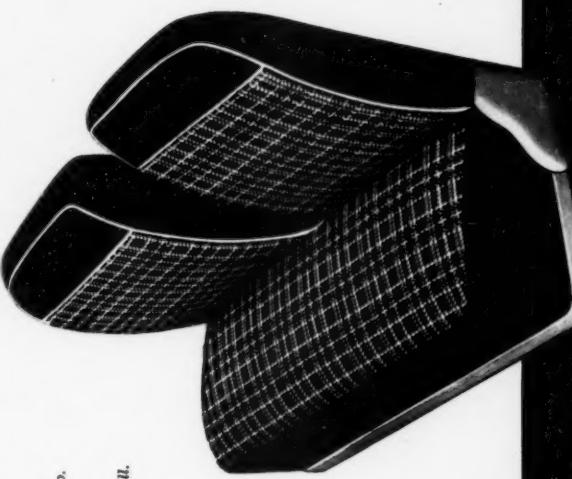
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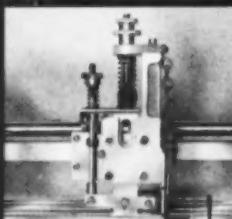
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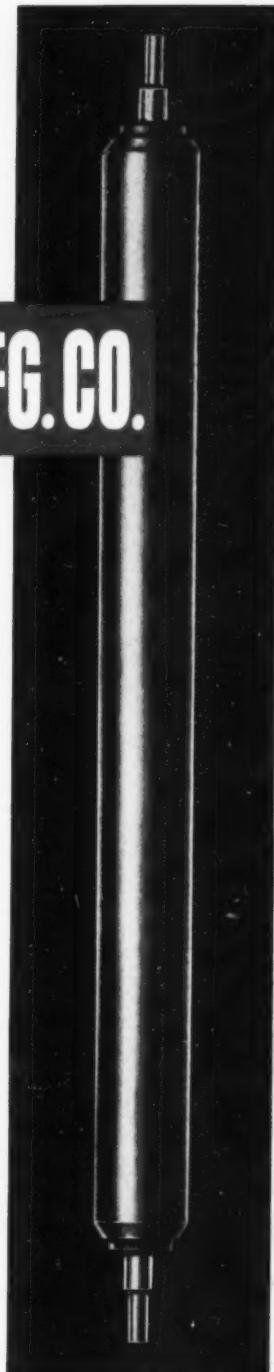
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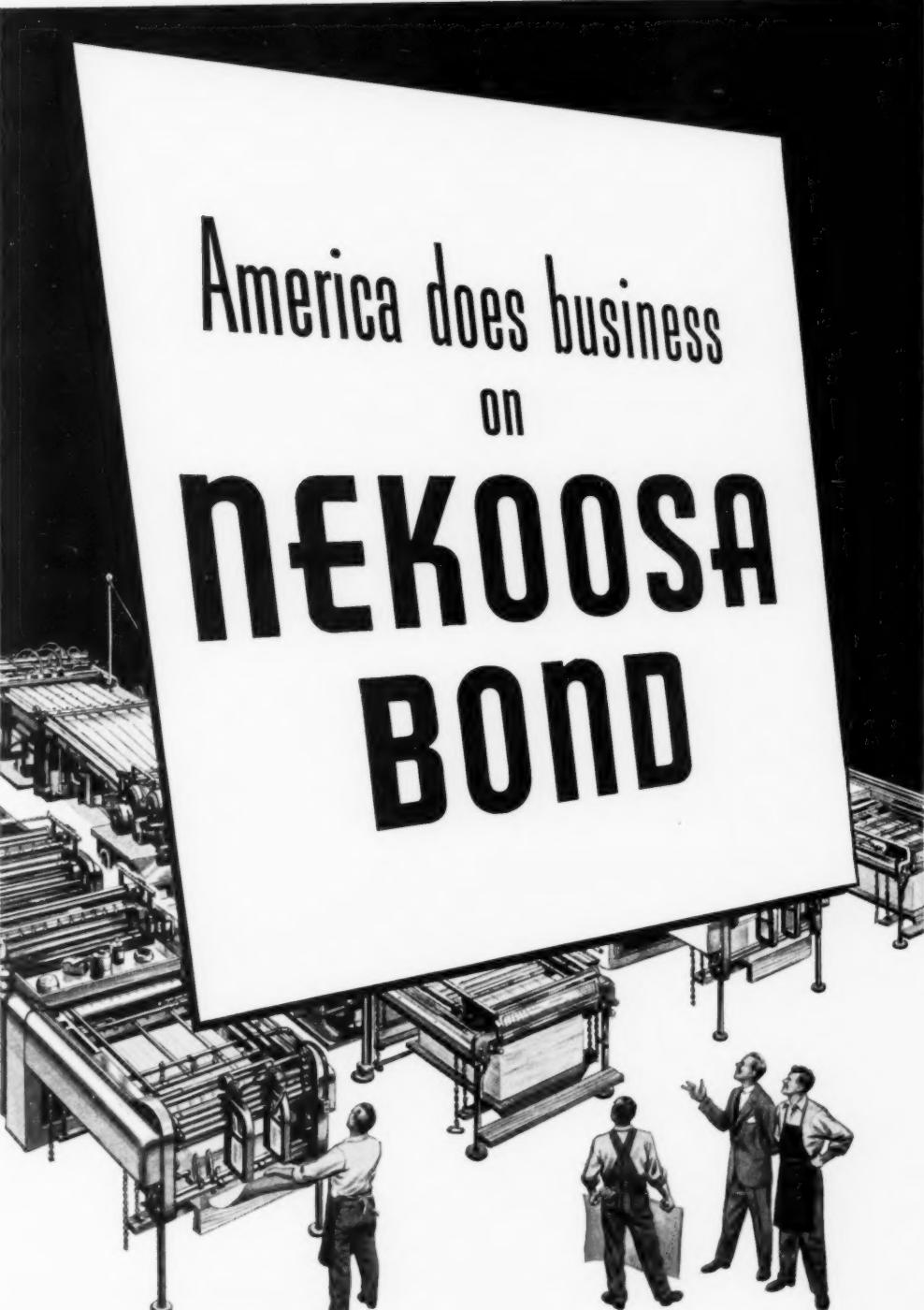
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An illustration of a factory interior. In the foreground, a worker in a light shirt and dark pants stands next to a large industrial machine, possibly a printing press or paper-making equipment. In the background, two men in suits are engaged in conversation; one is pointing upwards towards a large sign. The factory floor has various pipes, valves, and structural elements visible.

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The emulsion of Du Pont "Photolith" Film is rich in silver content and for this reason the film may be flat-etched without losing opacity. It's a quality that sharpens dot formation . . . makes the dots clear, clean and crisp . . . contributes to superior reproductions.



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# EDITORIALS

**A**NOTHER court in California has decided in favor of offset in an appeal case. The case involved the question of whether a newspaper produced by offset lithography is properly and legally a newspaper of general circulation. The *Sonora (Calif.) Daily*, was the newspaper in question, and action was originated by the California Newspaper Publishers Association. The offset newspaper won a lower court decision last year, and this decision was sustained by a higher court of appeals.

By being legally classed as a newspaper of general circulation, the offset publication is entitled to compete for profitable legal advertising.

The association, in an attempt to clarify the status of offset papers, raised the issue that since such papers are not printed from type, as defined by law, they are not newspapers, technically.

In rendering the decision, the judge observed that it seemed to be a question more properly addressed to the legislators than to a court. Perhaps the state legislature will clarify the question by redefining a newspaper. With offset newspapers so common across the land, the question of whether they are in fact newspapers should not be open to much doubt.

**F**ORECASTS for the new year were fluttering about us like snow at the turn of the year. Rather than add another of our own to the many, we'll simply pass along a one-minute summary to provide an easier dose than the experts dish out.

**Business in general:** High level of activity, meaning good. Defense impact still not felt fully. Naturally the Korean war is the big question mark underlying all opinions.

**Advertising:** 1951 was biggest expenditure, estimated at \$6 billion. Higher media rates accounted for some dollar volume increase. TV an increasing factor in advertising budgets.

**Supplies:** Paper in good supply in a reversal of a temporary trend which troubled many last year. Metal shortages don't appear critical as far as offset is concerned. Graphic arts equip-

ment firms turning to defense production but still largest share of production is on civilian products.

**Costs:** At all-time peak.

**Taxes:** At all-time peak. Pressure urging even higher imposts.

**Profits:** Lower margins even with increased sales.

**Price Ceiling Order:** Still waiting to be issued. Competition is such at present, that many think that the ceiling will not affect price structures. The order might serve to give more apparent legal status to present structures operating under the general price order.

With profit margins lower, even on higher sales, business will find it urgent to maintain and increase sales volume in order to maintain safe profit margin. This calls for advertising and promotion, which calls for lithography.

This, of course, had better be true. Because lithographers, like other business men, are faced with higher taxes, higher costs, and narrower profits. And as in other businesses, means must be found to sustain or increase sales volume to keep expanded equipment busy and keep operations in the black.

**T**HE need for more intensive point-of-sale merchandising for increasing sales of ice cream in super-markets was emphasized in the December issue of *The Ice Cream Trade Journal*. Illustrations in the self-service ice cream cabinets are important, the magazine stresses, and should be changed often to maintain interest, and to avoid dust collection. Windows, counters and floors often are decorated with displays of other food products, but not enough ice cream manufacturers utilize point-of-sale advertising, the editorial points out.

Unpromoted super-market ice cream self-service cabinets average from 1,000 to 4,000 gallons a year, while well-merchandised units sell from 10,000 to 15,000 gallons, the magazine states.

Here's a good piece of lithographic selling being done to the ice cream trade by its own publication.

# Densitometry

*For the fellow who wonders what the densitometer is all about*

by Erwin Jaffe

New York, N. Y.

WHEN a fellow first starts out to become a craftsman in the lithographic industry, he's very careful. He keeps his eye on the man who knows what he's doing until he gets the hang of the technique and the shop.

Then, after he's been around a few years the progressive man starts looking for better and easier methods. He may talk to a few other lithographers, get an idea here and there, and work them all into his own way of doing things. Gradually he develops judgment and tries to get farther and farther away from the hit-or-miss ways of his earlier years.

Suddenly the word "control" comes to him, and he realizes that he's got to find some way of measuring and controlling accurately the processes he's working with.

That's where the densitometer comes in. It gives a fellow control, and can be used almost any place in the shop. It's not new, and it's not a "gimmick." It's a scientific control instrument that's easy to use in lithography and can really help a man put quality, accuracy and efficiency into his work.

A lot of the fellows steered clear of it at first because the subject of density and the densitometer sounded so full of technical and mathematical terms that they were afraid they couldn't understand it—so they didn't even try. Actually it's simple, and

here are the fundamentals of the whole subject.

#### **What Is Density?**

In the lithographic process when we start talking about the density of

#### **Sound-Film Available**

*A sound film, audiovisual on the use of densitometers in lithography is now available from the Lithographic Technical Foundation, 131 E. 39 St., New York 16, N. Y. for showings in plants schools or meetings. It is designated as A-F No. 9.—Editor.*

an area, we mean how much darker one area is than another. The darker the area is, the denser it is. This meaning of density applies if the object we are talking about lets light go through it, or transmits light. We call that transmission density. If we speak about the density of an area that reflects light, we call it reflection density.

Actually, in its technical sense, density is a means of measuring and expressing the tones of an area in the form of a number. The number that we use to show this density is based on the amount of light that passes through or bounces off the tone we are trying to measure.

When light strikes a photographic negative or positive, it is partially absorbed by the plate or the film. If the negative is made with the usual silver emulsion, part of the light that is passing through it is scattered from its original path by the small

silver particles that make up the image. The rest of the light is passed through the negative or positive in its original direction.

The technical name for the light that hits the negative or positive is the incident light. The transmission of a tone area is simply the amount of incident light that passes through the area without being absorbed or scattered. (Fig. 1)

When a tone area allows half the incident light to pass through it without any change in direction, it has a transmittance of  $\frac{1}{2}$  or 50 per cent. (Fig. 2)

Reflection density is very similar to transmission density. When light falls on a press print, for example, part of the light is absorbed and the rest is reflected in various directions. The amount of light that is reflected in these various directions depends on two things—the tone density of area, and the surface of the material.

A highlight area will reflect more light than a shadow area. A glossy surface will reflect the light mostly in one direction as if the surface were a mirror, but a rough or matte surface will reflect light equally in many directions. (Fig. 3) When we measure reflection density, the standard method is to light up the tone area at an angle of  $45^\circ$ , and to measure the reflected light at an angle of  $90^\circ$  to the surface that we are measuring. (Fig. 4)

### Comparing Tone Values

There's one important point we should remember. That is, density values are relative. These values tell us how much darker one tone is than another and do not tell us a value in terms of how much light is coming from the area we are measuring. Visual tones are also relative and do not depend on the amount of light either. For example, a piece of white paper will look white whether it is in direct sunlight or in a shadow. This happens even when the light reflected from these two pieces of paper is very much different.

When we look at a tone, however, our eye also sees the tones that surround the area we are trying to measure. These surrounding tones cause the areas we are measuring to appear different under varying sets of conditions.

Look at the two grey squares (Fig. 5). One is surrounded by a heavy black border and the other small grey square has an almost white border around it. The grey square surrounded by the black border seems lighter than the other grey square. Actually, both grey squares are the same tone. It's only the contrast with the border that makes these areas seem different. This shows how our eye can fool us. If we had to make a match by eye with these grey squares and a press job we were running, the chances are that we might run different colors as a match for these two areas.

### Measuring the Tones

If we use a densitometer, which is the instrument used to measure density volume, we don't have this kind of trouble, because the densitometer reads only a small area and is not affected by contrasting tones that surround the area we are measuring.

Because of this factor—this independence from the effect of nearby tones—we can see one reason why the densitometer gives us an accurate reading of a tone area and in this way gives us a more specific method of controlling the tone quality of any job we run through the shop.

Figure 1.

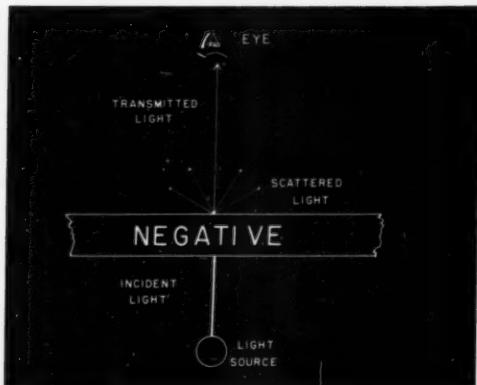


Figure 2.

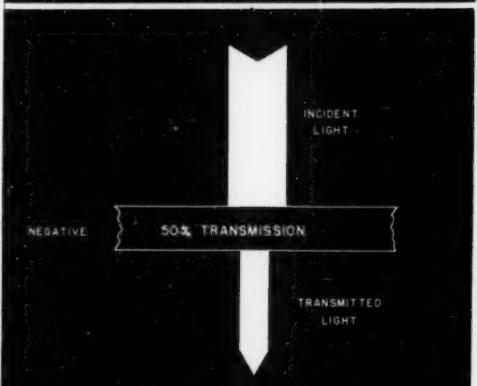


Figure 3.

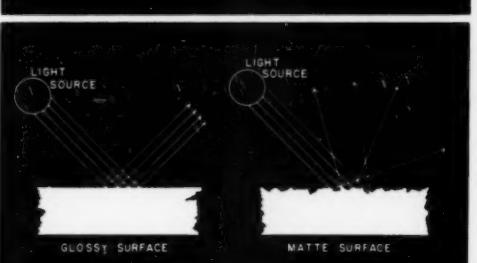
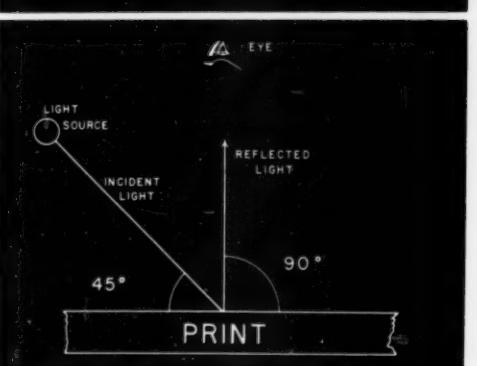


Figure 4.



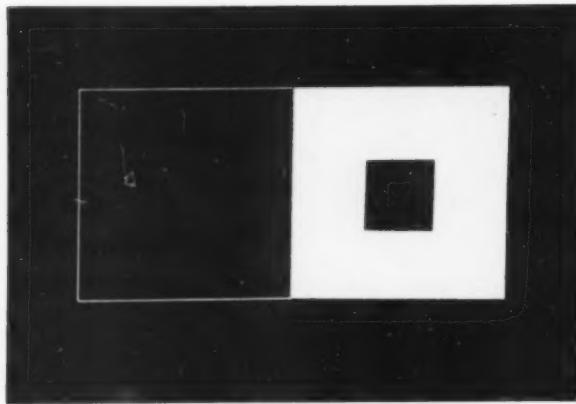


Fig. 5

#### **How the Instrument Works**

Those are the basic principles of densitometry. Now, let's take a look at the instruments we use to measure density—the densitometers. Some are made to measure only transmission densities; others measure only reflection densities; still others measure both. There are two general types of densitometers—the visual machine and the photoelectric one. In the visual machine 2 beams of light are used. One of these beams is called the control beam. The sample that we want to read is placed in the other beam, and by the use of an electric rheostat (dimmer) or other means, the two beams are adjusted until they seem to match. A calibrated dial is attached to this machine in such a way that when the beams are adjusted to match, this dial gives the density reading. Because it is necessary in this type of instrument to judge visually when the two beams seem the same, one possible source of error can creep in—our own judgment.

With the second type of densitometer—the photoelectric one—there is no need for this personal judgment. The machine shows electrically what the density is, and all that is necessary is that the operator read the meter which is calibrated in density units.

When taking many readings in rapid succession, the eye usually will tire when using a visual machine. With a photoelectric instrument, this is usually not the case.

The average densitometer takes a reading on an area approximately  $\frac{5}{32}$ nds of an inch in diameter. This is a small enough area to cover a uniform continuous-tone area on a transparency or print, and large enough to give satisfactory readings for coarse-screen-halftone images. In the average lithographic plant, it is necessary that a machine cover a range of from 0 to 3.0 for a transmission instrument, and 0 to 2.0 for a reflection machine. The densitometer also must give readings of uniform accuracy throughout this entire scale.

With a densitometer, you usually get what you pay for. The better an instrument is, the longer it will usually remain efficient. With most densitometers the operator can calibrate it himself following the instructions of the manufacturer. Occasionally, however, the machine may have to be returned to the manufacturer for recalibration.

#### **How It Is Used**

Let's take the litho shop by departments and see how the instrument can be used in each.

Everyone has troubles, and the cameraman is no exception. For one thing, when he buys his film he gets some recommendations from the manufacturer on the filter factors. If he read the fine print on the data sheet, he saw that the manufacturer stated that these factors were only approximate suggestions. They were

to be used as a guide in getting the correct exposure. But when the operator doesn't read the fine print, and takes these figures for gospel, he runs into some trouble. Here's a place where the densitometer can come in handy. For with only a few tests you can get the correct filter factors for your plant and for your set of working conditions.

If you have a photoelectric densitometer that has a removable head, you can use this to give you the correct exposure by using it on the ground glass of the camera.

In this way you're actually measuring something with the densitometer that can be used later to set up your standards. Once you've figured out and controlled these standards, it's pretty easy to turn out good negatives that are consistent from one day to the next. Actually these two techniques are simple and are easily outlined in most of the manufacturer's booklets that come with the densitometer you buy. Many use the instrument to balance sets of color separations and for other purposes.

The platemaker, facing as many as 43 variables in his part of the process, needs as much help as he can get. Densitometry has helped to rescue him. The "Sensitivity Guide" developed by the Lithographic Technical Foundation helps him to control his exposure, and the "Sensitivity Guide" is based on densitometric principles. This scientific method of control and measurement thus is working for the platemaker all the time.

#### **Dot Etching**

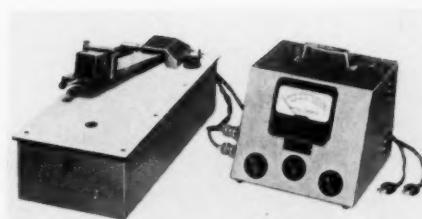
The dot etchers and retouch artists always must have a lot of judgment and artistic ability. But, still, the densitometer can help them. In one shop the dot etchers got together with the cameraman (a very common occurrence), and had him shoot a test set of separation negatives that were later run off on the press. They took the original and read the key areas with a reflection densitometer, then they read the same areas on the negatives, and, finally, they read them on the press print. From these

figures they began to see what densities on the original copy would produce on the final press print. After another test or two, they made a chart showing the relationship of the original copy and final press-print densities. From then on they were able to take a piece of new copy, read the densities of the areas they were interested in, and be able to tell approximately what they would get on the press. If corrections had to be made, they would work on the negative or positive, check them on the densitometer, and when they got the density they wanted in a particular area, they knew it would run all right on the press. Of course, things could happen that were out of their control and cause trouble, but in the main they were able to do their job with more certainty of final results than ever before.

#### The Pressroom

In the pressroom, too, there is a feeling of ease when such controls are used. The pressmen know that each man in the plant has made an effort to control his part of the process. Not "by guess and by gosh" methods, but with a scientifically sound method of measurement and control. In the shop mentioned above, the pressmen too use the densitometer to control their part of the process. In their department, they read the important areas of all jobs on the densitometer. First they read them on the OK sheet when it is wet, and then when it is dry. They keep records of the densities they read, and keep checking sheets at random from the press run. When the densitometer shows a different reading for a particular area than their standard OK sheet, they look for trouble. If the ink starts running thinner, or if there is too much moisture on the plate, the densitometer would show this by a different reading from the standard. In these cases, the highlights run about the same density, but the shadow areas change greatly. Depending on just what type of reading they get, they are able to determine approximately the source of their trouble. And they all report

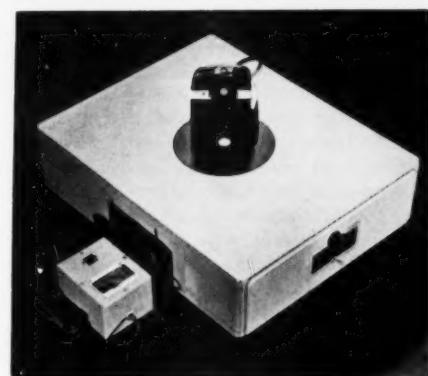
This transmission densitometer is one of the models of the Photovolt Corp., 95 Madison Ave., New York 16, N. Y.



MacBeth - Ansco color densitometer shown in use with reflection head attachment for measuring opaque materials. Removal of head makes it a transmission type. Ansco Div., Binghamton, N. Y.



This Eastman Kodak transmission instrument has a portable unit which can be used on ground glass of cameras or other places. Eastman Kodak Co., Rochester 4, N. Y.



that they are able to spot these troubles much more quickly and easily with the densitometer than they had ever been able to with their eyes alone.

It isn't the idea that the instrument could ever take the place of the competent craftsmen, but the fact that with it they are able to have more control over their part of the lithographic process. In a way it was job security for them, and when the men in the plant realized this, they were eager and cooperative and really developed a method of control that brought a new, more pleasant atmosphere into the shop.

This has been one of the main troubles with densitometry, the fact that few persons ever bothered to show the craftsmen exactly how the densitometer worked. This made him a little afraid of the device. He was always afraid that the instrument was going to do him out of something rather than be a help in his work.

In the shop just described, there was a really enjoyable working atmosphere. Management was happy for this, and also the men were getting more work done with fewer troubles, less waste, and the quality was much better. ★★

# DUOTONES

By Eugene C. Moysen Van Nuys, Calif.

**D**UOTONE ("Duo" from Latin "two") has become descriptive of the process employed by the graphic arts to reproduce a drawing or photographic print in two colors.

This can be accomplished with the usual combination of black and another ink of suitable color, chosen to match the mood of the original to be so treated, or sometimes with an appropriate choice of colors decided upon by the artist, after consulting with the customer. Many combinations may be used, such as red and green, red and dark blue, gray and scarlet, and so on, depending upon the subject itself and the effect required. Brown with black produces sepia tones, and enhances scenes of desert mountains, autumn landscapes, portraits, and other comparable material. Pink and black combine nicely for soft portrait reproduction of delicate flesh tones, sunsets, flowers, etc. Green mixed with yellow, or cool greens and black give a subject in which foliage predominates, such as forests, realistic beauty far more eye-catching than ordinary black-and-white halftones. Marine scenes, expanses of sky, snow, etc. of course call for blue.

Many halftone negatives can be prepared for duotone reproduction without requiring retouching or correction by artists. First, the picture area height is measured. Suppose in

this case, the height is 7 inches. Half-way down, or at  $3\frac{1}{2}$  inches, draw a small horizontal line with a pencil in the print margins. These lines will serve as guides in placing the original in the copyboard to control screen pattern, otherwise a confusing checkerboard effect (moiré) will break up detail in the duotone print when the color is registered into the black halftone on the press. Should this color angle be incorrect, however, it will be seen immediately during the stripping operation. Even before this part of the work has been reached, both negatives can be registered together in the darkroom while still wet, to detect the telltale moiré, or pattern. In this event, only the color halftone will have to be re-shot to match its screen angle to that of the black halftone.

With circular screens, expose the black printer at the customary angle, with color 30 degrees from the black. When a rectangular screen is used, draw center lines upon a large sheet of paper, about 20° by 24°, vertically and horizontally to intersect at the sheet center. Four 90 degree angles thus are formed. With a T-square, line up this sheet in the copyboard center, the longer line to be vertical as the copyboard is down. Fasten in place with cellulose tape, or rule these lines on a background sheet generally laid in the copyboard, for future duotones.

Mark 90 degrees at the end of the long vertical line, where it will be in the lower position as the copyboard faces the lens, so that it will appear right side up on the ground glass while focusing. Line up the base of a protractor to the horizontal line, and from the protractor center project a line to the sheet edge at 120 degrees. Continue this line up and back to the other edge of the sheet. Now there are three lines in all; one from 0 to 180 degrees (horizontal), another from 90 to 270, and another from 120 to 300 degrees. The vertical and 120 degree lines are used for duotones. There must always be a difference of 30 degrees between both halftones to prevent moiré formations during printing. So much for preliminary preparations, and now for the photography.

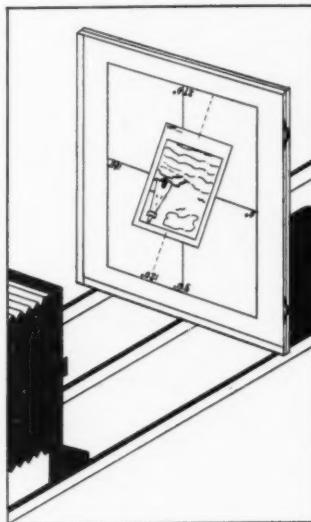
Place the picture to be reproduced so that the lines scribed in the borders, as described above, register accurately with the vertical line, and center on the copyboard. Proceed to expose as for a normal black-and-white halftone, after focusing to the proper size. That is, for small, tight highlight dots. But, unlike in regular procedure where a very tiny shadow dot is needed, here we want a rather large one to allow for the addition of color when that halftone is registered and run in later on the

### **Non-technical details on producing simple duotones from the viewpoint of the camera man.**

press. If the color is a pastel tone, then a small shadow dot is permissible, for there will not be sufficient addition from the color halftone to provide too much density in the shadows. A strong color requires, therefore, larger shadow dots to hold the black halftone.

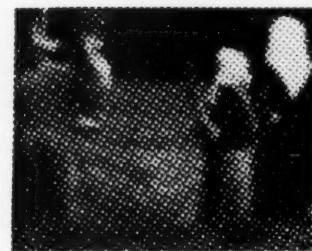
Now for the color halftone. This merely calls for the original to be turned in the copyboard, and the scribed border lines this time are lined up with the 120 degree line. Of course, the copy is again centered. A larger sheet of film must be used, due to the angling. Choose a diaphragm stop one half *smaller* for the highlight exposure than that used for the black halftone. That is, if the position was F.22 for the black, use a stop exactly between F.22 and F.32 for the color. A flat halftone will result from this procedure, with a larger than normal shadow dot, as before. Register both halftones while in the fixing solution, and examine the dot formation caused by this superimposition. If there is no checkerboard ( and there will not be if instructions have been followed carefully ), wash and dry the negatives. Do not force-dry with hot air blowers, as mis-register may result.

Register under normal conditions is a certainty, when using this method to produce a set of duotone negatives, unless the copyboard has



shifted out of position ( focus ) between halftones. Badly maintained equipment may sometimes cause such trouble. It is advisable to lock the copyboard in place, after focus has been completed for the black negative.

That is all there is to it, for a negative set designed to produce a duotone that is to be run without extra retouching or work of any sort. Highlighting, of course, may be carried out should the job instructions call for it, as well as dot-



etching to emphasize certain tonal areas.

If more influence is needed from color in the shadows, a smaller dot, or none at all, in the color negative can create this effect. A large highlight dot will transmit more color through the highlights of the completed job.

Should the original have too much contrast, it can be flattened or toned down by resorting to use of a slightly smaller highlight stop setting by closing down the lens one-quarter stop. This adjustment must be kept in mind when the color halftone is shot, and compensation made for it.

Conversely, flat copy can be "snapped up" by opening the highlight setting one-quarter stop, or slightly more if necessary. Again, compensate for this when exposing for the color negative.

The production and treatment of duotones is an extremely flexible process, and the results are attractive, economical in providing color without complex technicalities and high costs. Whether such production can bring streamlined simplicity or unnecessary complications naturally depends upon technical equipment and know-how in the individual shop. Many beautifully designed and lithographed brochures and books owe their effectiveness to the inclusion of various duotone pages within their covers.★★

# Controlling the Process

By A. P. Reynolds

Director, Printing Laboratory  
S. D. Warren Co., Cumberland Mills, Maine\*

THE basic element of any printing process is the surface from which you print. By that I mean the lithographic plate; the letterpress engraving; the gravure cylinder; the photogelatin plate; the silk screen mask; and any other such printing surface.

Each of these different types of printing surfaces distinguishes a printing process. All other things are supplementary, and are designed to accommodate the nature of the printing plate. Great presses are designed simply to carry the printing plate to best advantage. Copy and camera work are common to all, and vary only in details to accommodate the special requirements of the process.

The nature of the printing surface determines whether the ink shall be fluid or semi-solid; whether paper shall be rough or smooth; whether press speeds shall be fast or slow; and what kind of work and detail the printing process is capable of reproducing.

In other words the plate is the printing process, and this is particularly true in lithography.

Lithographic printing is accomplished by a surface phenomenon known as selective wetting of dissimilar substances (grease and water). The line of demarcation between the boundary of ink and water must be positively fixed and scrupulously held if sharp detail and uniform tone values are to be obtained.

The nature of a lithographic surface is important. Why then is it so often neglected? I have reference here to the plate graining procedure which I have chosen as number one of seven major control points in lithography.

It seems hardly necessary to justify the necessity for grain control, but here are a few factors that are influenced by grain character and grain uniformity.

- (1) Paper performance, by the way the grain carries fountain solution.
- (2) The chemistry and printability of inks, by the way grain carries water.
- (3) The life and usefulness of press dampeners.
- (4) The life of the plate image, and the sharpness of that image.
- (5) The character of halftone screen copy.
- (6) The density, coverage and smoothness of solids.
- (7) Exposure times, and uniformity and cleanliness of development, by the variability of grain structure.
- (8) Surface and deep etch coatings must be adjusted continually to variables in grain structure; depth, and fineness.
- (9) The strength and timing of



**GRAINING** is the basic factor to be controlled. Photo shows graining machine at Haynes Lithograph Co., Silver Spring, Md.

etches and counter etches must be changed, and whirler speeds and drying rates must be altered continually with grain variability.

- (10) As a matter of fact, every element of the process from copy to finished job, is affected adversely by poor grain, and particularly by variability of grain. A poor grain is a poor tool, but a variable grain is downright disastrous to every element of the lithographic process.

The Lithographic Technical Foundation has recently published Research Bulletin No. 17 entitled *The Standardization of Graining Procedures*. In this research, the Foundation states that they have catalogued at least 40 variables that affect graining. A change in any one of these can cause a serious variation in the plate grain.

That is a formidable list of variables! Little wonder, perhaps, that graining standards have been neglected so long.

The Foundation had neither the time, nor the money, to make an exhaustive study of each of these 40 variables. They were forced to confine their work to eight of the most important ones. These eight variables are:

- (1) Type of plate metal to be grained.
- (2) The composition, load, and size distribution of marbles.

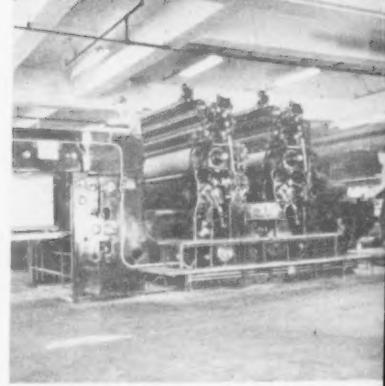
\*Based on a talk given at the 32nd annual convention, International Association of Printing House Craftsmen, Boston, Aug. 19-22, 1951.



**CAMERA** control is the author's second major point in outlining careful offset reproduction. Scene from Western Printing & Lithographing Co., Racine, Wisconsin.



**PLATEMAKING** controls are extremely critical and many scientific aids are now available to help the platemaker. Above: section of platemaking department, Bedford Litho, Cleveland.



**PRESS** controls always are critical as everything which has gone before is recorded here. The above 72" two-color press is in Wolff Printing Co. plant, St. Louis.

- (3) Type — size — amount — and breakdown of abrasive.
- (4) Speed and stroke of graining machine.
- (5) Amount of water.
- (6) Time Schedule of graining cycle.
- (7) Condition of plate *before* graining.
- (8) Handling and Treatment of Plates after graining.

The Foundation has done an excellent job in this bulletin of detailing procedures to minimize fluctuations in these variables. If you will follow faithfully the schedules of this bulletin, you will eliminate perhaps 80% of the possible variations in plate graining.\*

If you are still worried about the remaining 32 variables, let me offer five points that should cover at least 80% of the remaining hazards:

- (1) A clean, well organized graining room. Give a graining room a well organized area and it can be a credit to any plant in its appearance. Good workmanship seldom comes out of pig sties.
- (2) Follow a definite fixed procedure.
- (3) Give the graining equipment the same maintenance care you give your presses. Consistent results cannot be obtained on faulty equipment.

\*Graining charts, schedules and other information resulting from LTF's research were published in *Modern Lithography*, Aug., Sept., '51.

- (4) If you feel that good ink and good paper are essential to good press performance, then give the grainer a break. He needs the best of supplies also. It is poor economy to save on marbles and abrasives only to put the whole works down the drain through faulty grain.
- (5) Competent help. It is my hope that the lithographic industry will some day become sufficiently impressed with the importance of grain standardization that they will become a part of the craft; and train competent young men to give it the attention it deserves.

These five points cover the remaining 32 variables pretty well, because these variables result mainly from poor housekeeping and lax attitudes.

#### **The Camera**

The second major control point is the camera. It took us a long time to learn that the tonal balance of negatives for lithography had to be different from those used for letterpress engravings.

It took us even longer to determine the precise tonal values to complement plate grains, press influence, paper surfaces and other such influences that must be taken into consideration in order to achieve brilliance and sparkle in halftone reproduction.

These precise tonal balances are major factors in Lithographic halftone reproduction, and it requires precision control to accomplish them.

#### **Platemaking**

The third point of control is platemaking. Because it is the basic element of the lithographic process, it is a very important point of control. Platemaking has so many ramifications, and there is such a diversity of requirements, it is impossible to detail all of its variables, but there are certain major points that apply to all cases.

In these times of constant change and advancement in technology, the platemaker can ill-afford to disregard sound advances in platemaking techniques. He must learn them — and apply them. On the other hand, he must guard against turning his production procedures into a continual series of experiments.

He must maintain certain fixed reference points in his procedure so he can return to them in case of trouble. New approaches must be explored and must be fitted into existing procedures before they are adopted as standard practice.

The platemaker requires a tested and uniform source of supplies whatever they may be—and this is particularly true of his grained plate surface.

He also must have good equipment that varies only at his will — and never without his knowledge.

Basically these three things are essential, namely:

- (1) Fixed procedures.
- (2) Uniform supplies.
- (3) Good equipment.

They will go a long way toward eliminating unnecessary variables.

These things are within reasonable reach of every platemaker.

However, there are variables that are not so easily reached. For instance, consider weather, temperature and humidity.

The effects of weather variations are a problem to many industries besides lithography — and there is a positive solution to the problem — namely, complete air conditioning.

But even though this answer is easy to find, it is expensive to execute. So expensive, in fact, that many lithographers find it beyond their reach. This means that in unconditioned plants, the platemaker must shoot at a moving target. Whenever the temperature — and/or the humidity — changes in a plate room, the platemaker must raise or lower his sights — or correct for windage — all along the line of his procedures.

Now when it is impossible to immobilize the target, other techniques are helpful. We have three distinct avenues of approach to this problem. We must make the best possible use of all three.

(1) Strive to limit fluctuation.

In the plate room a great deal can be done in limiting the influences of temperature and humidity. By knowing what is going on out-of-doors, we can anticipate the weather, and minimize rapid plate room changes. By proper handling techniques, we can prevent excessive changes in temperature and humidity from getting at the sensitive parts of the process — to a helpful extent at least.

(2) Predict the direction of change.

Recording instruments in the platemaking area will show the rate and degree of change, and make possible more accurate predictions.

(3) The third approach can be likened to the complex aiming mechanisms used by the Armed Services. For instance, the L.T.F. Sensitivity Guide tells

the platemaker whether or not he is on the mark regardless of the influence of several simultaneous variables.

Any craftsman, no matter how good he may be, will make few bull's eyes unless he keeps close track of the variables that move his target.

#### The Press

Our 4th point of control is the press.

The press itself, even before it starts the intricate job of putting ink on paper, has a number of points of possible variability.

For instance:

- (1) The press inherits all of the previous process variables in the form of the plate. Variable grain, poor desensitization, weak image, scumming background, poor copy, and all the other poor guesses. Give the lithographic pressman a good plate and at least two thirds of his troubles are over.
- (2) Dampers, and dampening solutions are a source of constant variation. They are subject to control within reasonable limits, but they do require attention.
- (3) The inking system is subject to variation, but also subject to control by proper mechanical adjustments.
- (4) Blankets vary in uniformity of thickness, surface hardness, and porosity. And they can be installed on the press in such a way as to create or accentuate one or more of these variables. A careful blanket make-ready is time well spent.
- (5) It goes without saying, that good mechanical adjustment throughout every part of a press, is also an essential. Fortunately the press is a recording instrument. Anything badly wrong with the mechanics of the press will usually be recorded on the impression. In other words you can have a look at the target after every shot.



INK is control point No. 5. The author offers four suggestions for an orderly approach to ink problems. Photo from pressroom of Commercial Printers, Columbus, Ga.

#### Ink

The 5th point of control is ink. It is difficult to discuss the possible variables related to lithographic ink without getting involved with interrelated influences such as the paper; the weather; the plate; the fountain solution; the type of job; and even the press itself.

But here I want to consider the ink problem before it reaches these complicating circumstances. In approaching the problem of ink control in a lithographic pressroom, the first step is to decide just how much ink formulation we are capable of doing.

Personally, I prefer to leave the most of that to the trained technicians of the ink industry. True, there was a time when the manipulative skill of a pressman was an important function. The sun is rapidly setting on that era.

Today, a large part of the success on an offset press is due to highly complex physical and chemical relationships that have been built into ink after a great deal of painstaking research. These complex relationships make for better press performance; a broader scope for the whole process; and eliminate many of the old hazards.

These complex relationships are easily upset by rule-of-thumb manipulation. May I suggest these four



PAPER now can be controlled better than in the old days, with modern instruments and information. Above: Paper conditioning in the H. S. Crocker Co. plant, San Bruno, Calif.

steps as the first rungs of the ink control ladder?

- (1) For Black and White reproduction, I like the approach of two or more tack graded inks. To use conventional terms a soft; a medium; and a heavy bodied ink. If these three inks are the best that can be made for lithography; and if they can be mixed one with the other in all proportions; it is surprising how little ink chemistry one need know to meet nearly every job condition; how little "doctoring" need be done; and how much trouble can be avoided.
- (2) A variety of colors can be worked out the same way, provided each is designed for lithographic printing and all can be mixed together.
- (3) If we must add things to an ink, either through necessity or to satisfy our whims, at least establish limits. Ask the ink maker how much varnish, how much wax, how much dryer it is safe to add to his inks. Then if we go overboard and the job goes to pot, we'll at least know who to blame.
- (4) Keep a formula file of ink mixtures, and a sample of the paper and job; together with

ATTITUDE is listed by the author as the final factor, and one of the most important in quality control. This conference is among production executives at H. S. Crocker Co.

conditions under which the job was printed. This is an excellent reference for a similar job at a later date—provided, of course, that we take into consideration that conditions may have changed and therefore, that we may have to realign the sights a little.

Without going into further detail, let's admit that the selection and preparation of lithographic ink is a highly complex control problem, and the least we can do is to approach it in an orderly manner, and with judgment based on the best knowledge at hand.

#### Paper

This brings us to the 6th point of control—paper.

In discussing the influence of paper variables, we again run into the inter-related influences of ink, and weather and press, and all of the others. But let us consider a few basic variables of paper alone.

To start with let's admit for the sake of argument (or better still for the sake of avoiding one) that paper varies. So long as paper is made from the "living" fibre of wood, it will retain some element of unpredictability, and the only predictable thing I can cite is that it will change—and change every time the weather changes.

We must learn to live with these conditions if we continue to print on paper. The only approach to this type of paper-control problem is to know the nature and extent of the predictable changes. The more important ones are these:

- (1) Paper swells and shrinks as it gains and loses moisture.
- (2) Paper has grain direction and swells more across the grain than with it.
- (3) Paper has a felt and wire side and tends to swell faster on the wire side and to curl because of this.
- (4) Paper in piles gains or loses moisture faster around the edges than in the middle—causing wavy sheet edges if expanded, and cupped sheets if contracted.
- (5) Paper which is colder than the room atmosphere, gathers moisture; paper, warmer than the room air gives off moisture—resulting again in wavy sheets or "baggy" sheets as the case may be.

These variables are inevitable.

Again the best approach to control of these inherent paper variables is complete air conditioning. The next best bet is to limit changes as much as possible. Here are a few things we can do to help ourselves in non air conditioned areas:

- (1) Bring paper to pressroom temperature before breaking waterproof wrappers.
- (2) Keep paper sealed from pressroom air when not actually on the press.
- (3) Know pressroom temperature and humidity, and the paper temperature and humidity, so you can predict accurately your chances of success under any given set of conditions.
- (4) Keep paper stored under the most favorable conditions of moisture and temperature.
- (5) Keep measuring instruments in perfect calibration, and use them often.

(Continued on Page 105)

## **The Deep Etch Stencil:**

# **Remove it or Not?**

### **--It Depends on the Colloid**

THE question about removing residual stencil from a zinc deep-etch plate before it is etched, is a good subject for arguments. It has been found that there are times when it is good to remove the stencil and times when it is not good, according to research done by the LTF.

As we all know, the colloid in a deep-etch coating is usually gum arabic. Research has shown that when the plate is exposed, processed, and finally cleared, a thin, invisible film of the gum arabic stencil remains on the background. This residual film of gum arabic is water-receptive. So long as it remains on the background, a cleared zinc deep-etch plate is pretty well desensitized even before you etch it.

This thin residual film of gum arabic has been light-hardened on the plate. It will stick much tighter than any film of gum arabic that you can

apply by etching. You'll recall that your purpose in applying the desensitizing etch is to add a film of water-receptive gum to the non-image areas.

So, the point is this: If you use a gum arabic etch, do not remove the residual stencil. The application of developer, citric acid, or other acids should be considered only as emergency treatments when the stencil is very difficult to remove. If you have to use any of these things to clear the plate, then you should give the plate a post-treatment and etch it very carefully so that the non-printing areas are again well-desensitized.

You'll notice that all this applies only when you use a gum arabic etch on zinc plates. LTF has found that if you use a cellulose gum etch, the story is different.

Cellulose gum is a much better desensitizer than gum arabic. So, you'll have a better deep-etch plate if the gum film on the metal of the non-printing areas is cellulose gum and not gum arabic. In this case then, it is a good idea to remove the residual

gum arabic stencil before you apply cellulose gum etch.

After a number of tests with most of the chemicals used by lithographers, LTF believes that a solution of hydrochloric acid does one of the best jobs of removing the residual stencil. A solution of  $2\frac{1}{2}$  ounces of acid in a gallon of water seems to be about right.

To get the residual stencil off, apply the acid solution after you have cleared the plate. Brush it around lightly for about one minute. Then flush the plate with water, wipe off the excess water, and apply the cellulose gum etch. Be sure to dry the etch down.

If you wish, you can vary the amount of acid in the solution and the time you leave it on the plate. For example, you could use 3 ounces of acid in a gallon of water. This would remove the stencil in about 30 seconds with a light swabbing with cotton. Or you could cut the acid to 2 ounces and leave it on the plate for  $1\frac{1}{2}$  minutes.

When the cellulose gum etch is dried down on zinc that has been cleaned with hydrochloric acid, it really desensitizes. It does a much better job than (1) gum arabic etch on bare zinc, (2) gum arabic etch on residual stencil, or (3) cellulose gum etch on residual stencil.

This is the whole story. If you use a cellulose gum etch, you can take the residual stencil off and get a better plate. If you use a gum arabic etch, leave the residual gum arabic stencil on the plate. Taking it off and putting it back is a waste of time. Also, the film of gum arabic that is left on the plate after you have etched it is never as good as the light-hardened residual stencil that you took off.

All of these things that we have talked about apply to zinc plates. With aluminum, the story is again different.

LTF's tests on removing residual stencil before etching on aluminum plates have shown slightly better results. But they don't feel that the improvement is enough to warrant the extra work.★★

\*From material prepared for Research Progress No. 24, issued by the Lithographic Technical Foundation, 1800 S. Prairie Ave., Chicago 16, Ill.

# Trapping of Inks on Multicolor Presses

By *Theodore Makarius*

In multicolor printing the trapping of inks from one unit to another can be troublesome if certain fundamentals are not understood clearly. To begin with, the ink must have the right tack and body so that the ink from the first unit will not pile on the second unit blanket, and so that the ink on the second unit will lay smooth on the ink delivered by the first unit. In order to accomplish this, the ink on the second unit must be less tacky than the ink on the first. On four-color presses the ink on each successive printing unit must be less tacky than that on the preceding unit.

When running on a soft or picky paper the inks must be soft bodied and to some extent tackless. In the case of four-color presses the degree of tack must vary only slightly or the ink may be too tacky for the paper, or too thin or "soupy" for the halftones to print clean.

An ink that is going to be overprinted must be tinctorially strong so that it can be run spare. This is necessary because a heavy film of ink will pile on the next blanket and prevent successive colors from printing smooth. Every effort should be made to effect a perfect transfer of ink from one unit to another and on to the paper. Inks of a heavy specific gravity are more difficult to run on multicolor presses because they transfer poorly and have a tendency to pile naturally. Very strong transparent inks are best suited for this type of work.

All of the problems which arise in ink trapping are not due to the construction of an ink or its manipulation. On an offset press the packing

of the cylinders and the evenness of the pressures between the plate and blanket, and blanket and impression cylinders are very important. When the pressure between the cylinders is weak the ink will not transfer properly, and the ink remaining on the weak area of the blanket will cause poor trapping. In other words, if the blanket of the second unit on a two-color press has a weak area, and this area is to receive an impression of the second color, the build-up of ink from the first unit on the second blanket will prevent the second color from printing or trapping properly.

Overcharging the press with ink also can cause poor trapping. The paper will take just so much ink, and the excess will build up on the blanket and eventually cause a depression in the rubber. It is also important that the film of ink on the preceding units is not thicker or heavier than the film or bulk on the next or succeeding color. This is especially important if the first color is stronger or "dirtier" than the second, because the eventual build-up of ink on the succeeding blanket will transfer to the plate, and finally to the inking rollers, and "dirty" the ink on the second unit.

While it is customary to run light colors first, it sometimes may help the job to reverse the procedure. This can be done only if the preceding form is lighter than the form that follows, or if the ink on the first form is run more spare. The usual procedure on a four-color press is to run the colors in this sequence — yellow, blue, red, black. However, very often it will improve the job

if the red precedes the blue or the black precedes the red. Generally speaking, heavier forms or those consuming more ink, should follow lighter forms. When the difference in consumption is negligible the cleaner or lighter color should come first.

Another factor to be considered in multicolor printing is the film thickness of ink. When printing four-color process work and all four colors are laid down in rapid order, the film thickness of the ink should be kept to a minimum. If the inks are weak in color strength and a heavy film of each is used, the blending of the inks before drying will cause a muddy or browning effect on the finished job. If, on the other hand, one or two of the colors are run much heavier than the others, the heavy colors will absorb the lighter ones and therefore predominate when the job is dry. When all four colors are run spare and in the proper sequence, the finished job, when dry, should look like a job printed on a single color press.

In this connection it can be said that better results can be obtained on multicolor presses with the quick-setting types of inks in use today. These inks, due to their fast setting properties, prevent the blending of colors after they are printed on the paper. In other words, there is no difference between the freshly printed sheet and the dry sheet. Another advantage in this type of ink is that the normal spread around the dot with conventional inks is eliminated. The result is a sharper, cleaner halftone and a denser, stronger solid. ★★

# THREE LNA Awards

in each classification

for distinctive merit in offset-lithographic work produced in 1951

## LNA Marshals Second Award Entries

WITH the mailing of its five color announcement (above) during December, the promotion committee of the Lithographers National Association released details of the new classifications and the rules and regulations for the Second National Offset Lithography Awards Competition for 1952.

While avoiding any radical departure from the rules under which the First LNA Competition was conducted, the committee has made many minor changes in the interest of clarity, greater speed and smoother handling. Closing date has been set back one month to January 31, 1952, to allow late December work to be included. All lithographic work produced in the calendar year 1951 is eligible.

Several classifications have been added to the 1952 Competition, including media promotion, wall charts and pictorial post cards. Other classi-

fications have been further subdivided, such as point-of-purchase, which is now separated into five classifications — flat plane displays, multi-plane displays, light-and-motion displays, counter merchandisers and displays, and floor merchandisers.

The most important change in the rules is the discontinuance of the three grand awards, and the giving of first, second and third awards in each classification. These will be represented by certificates bearing blue, red and white ribbons respectively. Honorable mention certificates also will be given.

The basis of the judging is also altered in the 1952 competition to give primary emphasis to the quality of the lithographic reproduction from a technical viewpoint. Entries that pass this primary test then will be judged for excellence of design, art, typography, and general composition, and finally, on the effectiveness of the piece for its intended purpose.

### classifications 1952 COMPETITION

DIRECT MAIL ADVERTISING		BANK STATEMENT
A-1	Folders and Brochures	H-1 Checks and Drafts
A-2	Postage	H-2 Bank Financial Statements
A-3	Books and Pamphlets	H-3 Bank Statements
A-4	Media Promotions	
ADVERTISING REPORTS		BOOKS AND BOOK JACKET
B-1	Magazine Book Financial Statements	I-1 Books, Journals
POINT-OF-PURCHASE MATERIAL		I-2 Children's Books
C-1	Flat-Plane Displays	I-3 Combined texts
C-2	Multi-Plane Window Displays	
C-3	Point-of-Motion Displays	
C-4	Counter Merchandisers and Displays	
C-5	Floor Merchandisers	
POSTERS		MAGAZINE AND HOME CATALOG
D-1	24-Sheet Posters	J-1 Competitive Publications
D-2	12-18-Sheet Tracts, Wall Charts, Posters	J-2 Covers only
D-3	Wall Charts	J-3 Signatures and Indexes
DISPLAY CARDS		MAPS
E-1	Box, Box, Red and Window Cards	K-1 Road Maps
PACKAGING MATERIALS		K-2 Other Maps
F-1	Labels	L-1 All
F-2	Wrappers	
F-3	Cans	
F-4	Bags and Crates	
F-5	Gift Wrapping	
COMMERCIAL STATEMENT		MEMO, PROGRAM AND ANNOUNCEMENT
G-1	Letterheads	L-2 All
G-2	Logos	
G-3	Blotters	
G-4	Baled Forms	
G-5	Other Commercial	
CAMPAIGN		CALENDAR
H-1	All	N-1 All
ART PRINTS		N-2 All
I-1	All	O-1 All
DECORATION		O-2 All
P-1	All	TICKS AND TALES
P-2	Letters	Q-1 All
P-3	Logos	
P-4	Blotters	
P-5	Baled Forms	
P-6	Other Commercial	
UNCLASIFIED		R-1 All other material

sponsored by the LITHOGRAPHERS NATIONAL ASSOCIATION

# TECHNICAL SECTION

## Pressroom Illumination

*Philip E. Tobias*

Research Engineer  
Edward Stern and Co., Inc., Philadelphia\*

**I**N line with our quality control program, a statistical study showed that there appeared, frequently, a variation in printing results between the night and the day shifts. These differences varied in magnitude with a definite correlation to ink color and stock. Qualitatively, these differences appeared as—first, a variation in ink volumes, the night result generally being somewhat excessively inked as compared to the daytime ok sheet; and, second, an apparent inability to judge accurately color values of reds, browns, and red-toned blacks at night.

This situation was studied and, as might be suspected, the underlying cause for these observed variations was found to be pressroom illumination.

The lighting arrangements used in the offset and letterpress rooms were consistent with good industrial lighting practice, and were based on the use of two and four-tube standard industrial fluorescent fixtures, so arranged that the general illumination level was about 35 foot candles, and the level on the viewing tables about 50 foot candles. In general, one of the two-tube units was suspended over each of the pressroom viewing tables. The tubes used in these fixtures were the standard 4500° white fluorescents.

The day-to-night variations that were noted were found to be the result of two independent lighting factors.

The first factor was the color of light source and its spectral distribution. This factor affects the apparent color of the object being viewed and, as will be shown later, can even affect the relative match between print and copy as obtained under different illuminating conditions.

The second factor was the position, spatial distribution, and brightness of the lighting units which, combined, resulted in surface reflections from the press sheet to the eye of the viewer. This caused the improper evaluation of color density or ink volume, the effect of surface glare being equivalent to desaturation of the color being viewed.

In considering the first factor it would be well to review one or two concepts that are general.

It is not uncommon to see references to light sources in terms of the color temperature. For example, a 6500 to 10,000° K is equivalent to north sky illumination ranging from overcast to clear. Thus, 2900° is the color temperature of an incandescent lamp, 4500° that of a fluorescent, supposedly corresponding to mid-day sunlight, etc. It has frequently been assumed that the color temperature is a sufficient means for completely describing the color and distribution of white light. This is true, however, for only black body type of radiation. That is, if the radiation is that of a theoretical black body (or,

practically, an incandescent source) the spectral distribution is completely defined by the color temperature, or conversely, the color temperature may be obtained from a ratio of intensities in two different portions of the spectrum. These intensities are generally measured in the red and the blue.

Unfortunately, this is not the case for any radiation other than black body. Thus, fluorescent type lighting is not black body in distribution. Even a mixture of two black body radiations of different color temperatures will not result in a black product. For example, a mixture of skylight and sunlight does not have black body distribution. This point emphasizes the fact that in considering the color quality of a source of illumination, the distribution of the component wavelengths is the important characteristic, rather than the color of the source to the eye or, to a less accurate degree, the so-called color temperature.

Now let us consider the problem of the optimum light source for pressroom illumination from the standpoint of color distribution for color matching. Basically, color matching is covered generally by either: 1. The matching of colors which are spectrally identical; or, 2. Matching of colors which are spectrally dissimilar. As an example, this first type of matching generally is done by a textile dyer, using a tremendous array of dyes, which he may blend to approximate

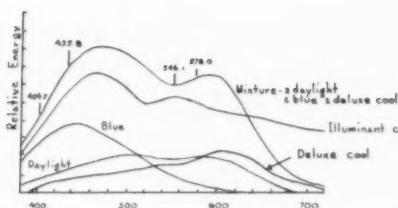
\* Presented at the annual meeting of the Technical Assn. of the Graphic Arts, Columbus, Ohio, May, 1951.

the spectral reflectivity of his sample. To determine the closeness of this spectral match, he must either determine the distribution by spectrophotometric means or else less accurately, see the closeness of viewed match under bluish white and reddish white illuminants. It is obvious that spectrally identical colors will match under any type of illumination.

The second type of matching is the one which generally concerns the printer. By the use of three process inks, he obtains a mixture which he tries to match to seemingly infinite numbers of pigments and dyes which are supplied to him in the form of copy. It is then certain that, although a match is obtained, it almost never will be a spectrally identical match to the copy. This, at present, makes for confusion among printer, ink maker, agency, and artist. If two colors differ spectrally, a match may be obtained for one observer under one type of illumination. Vary the illuminant and/or the observer and the match may be non-existent. In practice, the artist may work under north light—overcast or clear, fluorescent, tungsten incandescent, sunlight or possibly, if his temperament dictates, candlelight. The printing buyer may view the printed result by any one of these light sources; the printer in turn may do the color correction and the printing under even different lighting conditions—the situation indeed looks completely insoluble. To some degree the problem would be resolved if it were possible to standardize on a source of illumination which would be used by both customer and printer. I hope that this may eventually come to pass.

Another form of color matching which is involved in pressroom operation, also must be considered. This may fall into either of the types of matching mentioned above. This is, the running maintenance of color to a value as given by an "ok" sheet. Here press running conditions are involved and their effect upon hue, saturation and brilliancy of the color. For instance, the amount of water being run on a

Figure 1.



lithographic press can cause a hue shift in a brown ink. The illumination requirements for this type of match, which may be the most frequent type of match encountered in a pressroom, is that the spectral distribution of the light give the maximum acuity for detecting small differences in various colors.

Miss Nickerson, of the United States Department of Agriculture, made a statistical study of color matching, which indicated that a color temperature in excess of 6500° is liked best by textile color matchers, and gives the best overall results for matching spectrally similar colors as measured photometrically. Therefore, our first specification for the color of our illuminant was that the equivalent color temperature be in excess of 6500°.

The available types of illumination were as follows:

Filtered tungsten—which gives an excellent match to north light, the distribution being good, similar to a black body, but the amount of light which is filtered out to achieve this result is extremely great. The efficiency, therefore, is extremely low. The initial cost of such fixtures, as well as operating costs, along with increased load on the air conditioning in the pressroom (the required load being in excess of the conditioner capacity), did not warrant the use of this type of illumination.

This left the possibility of the use of a mixture of fluorescent tubes. Examination of a typical fluorescent spectral curve, Fig. 1, showed a more or less continuous curve resulting from the emission of the phosphor, superimposed upon which, are lines resulting from the emission of the mercury vapor in the tube, corresponding to the strong blue and

green light generally associated with mercury vapor lamps. These are only indicated on this diagram and of course will influence the appearance of any object when viewed under this light. It again should be emphasized that the color temperature alone is no criterion of the light source, if it is not a black body radiator as would be generally the case only if the source were incandescent. Thus, two light sources may appear to the eye to have the same color but may not be spectrally alike and, consequently, an object viewed by these two lights would show a color difference. Until recently, fluorescent lighting had the serious disadvantage of being deficient in the far red. About a year ago, however, a line of so-called Deluxe tubes was brought out which has utilized a phosphor fluorescence in the far red. The color of the Deluxe cool lamp appears to be the same as the 4500° white or as it is now called, the standard cool. However, the presence of the red component will show a startling difference in the rendition of reds and browns. Unfortunately, the lack of red in the standard line of fluorescents has been overcompensated in the Deluxe line, so that, relatively, reds appear to be excessively saturated when viewed by this light alone. This effect, while aesthetically pleasant, is too great for critical evaluation of color.

In this work, it must be remembered that there is no perfect light source. Inasmuch as the pigments of the copy and the reproduction are generally different, a match can be obtained only for one type of illumination. A suitable source would be one that is most probably like the light being used by the printing buyer and it should be, if choice per-

mits, of a distribution and color temperature which would allow accurate evaluation of small differences in color. The previous pressroom lighting system, using standard 4500° fluorescents, was too deficient in red to allow the proper evaluation of colors such as deep reds, browns, and red-toned blacks. This was a practical example of the old saw about all cats in the dark being gray. With the new Deluxe fluorescent alone, one would overcompensate for the red deficiency; it was therefore necessary to consider a mixture of lamps which would give an integrated result similar to some common form of illumination.

The results of Miss Nickerson's work on the optimum color temperature for color matching indicated that under practical conditions, the color temperature of the illumination should not be less than about 6500° K, or equivalent to slightly overcast north sky. The use of warmer light than this appears to result in reduced color acuity in the expert matcher. Using the spectra available for various light sources, a combination of two daylight lamps, one blue and one Deluxe cool, gave a curve which roughly approximated 7000° or overcast north sky. The presence of the narrow mercury vapor lines was not evaluated readily graphically, and so a unit containing a mixture of these lamps was compared, using various colored copy with overcast north sky (about 6800° K), and found to be quite close. It must be remembered that exact duplication of north light of this color temperature was not necessary, inasmuch as our objective was to obtain a light source which we could standardize upon for use in our plant, which would be relatively inexpensive, satisfactory for color matching or observing press inking conditions, and which would not be too far off from some conventional form of illumination. In the final design of this lamp, we felt that we had obtained such a compromise.

The second factor which is responsible for day to night variations, mentioned previously, that of phys-

## TECHNICAL BRIEFS

### Abstracts of Current Literature in the Graphic Arts

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#### Photography and Color Correction

\***The Colour Temperature of Light Sources.** H. G. W. Harding, *Proc. Phys. Soc. B*, 1950, 63, Pages 685-698. The new definition of color temperature is explained and the difficulties of making the measurements dealt with. The spectral transmission curve of color temperature conversion filters is calculated, and the use of these filters (particularly the Chance O.B.9) for extending the range of standard lamps is discussed. *Photographic Abstracts* 3, 1951, Page 139. The Royal Photographic Society of Great Britain, 16 Princes Gate, London S. W. 7, England.

**\*Photo-Mechanical Printing Surfaces.** British Patent 618,113. Crowell-Collier Publishing Company. *Abridgement of Specifications Group XX*, Page 273. A screened positive transparency which has discrete silver dots of varying sizes, formed as by use of a reduced screen distance and exposure time, is subjected to the

action of a bleaching medium to completely or partially bleach the dots and is then redeveloped in a color developer to impart color to the bleached dots or bleached portions of the dots, and such is used for preparation of an intaglio printing surface by known photographic and etching methods. The screened positive may be made from an ordinary photographic negative of a subject, or from a separation negative of one of the colors of a colored subject; and is bleached as by use of a potassium bromide-potassium ferricyanide solution for a time sufficient to permit only the peripheries of the larger dots to be bleached; redeveloped as by a solution containing p-aminodiethylaniline monohydrochloride as color developer and p-nitrophenylacetonitrile as color coupler which produces magenta in the bleached areas; and cleared as by Farmer's Reducer for a time insufficient to reduce the size and opacity of the centers of the larger dots; all of these operations being carried out under observation in bright light and requiring

ical distribution of the source of illumination, was found by observation to operate generally, under most sheet viewing conditions. However, it was found that a viewer unconsciously adjusts for the surface reflectivity by tilting the sheet until the surface glare is at a minimum. This is relatively easy when the sheet being viewed is fairly small and illumination comes from a single small source. But larger sheets cannot be held so that the entire sheet receives a uniform distribution of light, which

is all reflected away from the eye. This difficulty increases with a multitude of bright sources of illumination.

If the surface of a sheet being viewed is perfectly diffuse, the angle of view and the angle of incidence are of relatively no importance. The amount of light reflected back into the eye is independent of the viewing angle or the angle of incidence. As the surface becomes smoother the sheet behaves increasingly like a mirror until finally most

times of treatment such as 20 to 100 seconds. British Patent Office, 25 Southampton Buildings, London, W. C. 2, England.

**Masking Techniques.** Henry R. Long. *National Lithographer* 58, No. 9, September, 1951, Pages 60-61 and 107 (3 pages). This is the first part of two articles on masking technique. Discussed in this part are: (1) Photographic overlays, and (2) Overlays made from positive-negative combinations.

**Masking Techniques.** Henry R. Long. *National Lithographer* 58, No. 10, October, 1951, Pages 42-43 and 86 (3 pages). This is the second and concluding article on the various masking techniques in current use. Discussed are: (3) Image overlays, (4) Modulated light masking, (5) Multiple emulsions, and (6) Electronic masking.

**Photographic Composition Machines.** Edward Gottschall. *American Printer* 132, No. 9, September, 1951, Pages 26-27 (2 pages). This is the second of three articles based on a comprehensive chart and analysis of the photocomposing machine

field that will be a feature of the Tenth Edition Graphic Arts Production Yearbook. Discussed in this article are: available typefaces, type size range, kerning, letterspacing, word spacing, leading, letter alignment, and mixing of two or more typefaces.

**Reviews Most Recent Electronic Scanner Progress.** Frank Preulic. *National Lithographer* 58, No. 9, September, 1951, Pages 34-35, 108 and 110 (4 pages). The author reviews the recent and proposed improvements in electronic scanners. The new R.C.A. system is based on Interchemical correction circuit but employing flying spot scanning. The Time-Life scanner can now scan 1000 lines per inch and applies the principles of unsharp masking with optics and electronics to improve sharpness of detail. Also discussed are the recent patents of J. A. Ball which claim the advantage of wider color gamut in printing by employing 4 and 5 colors (not counting black).

**New Photochemical Lamps.** L. E. Barnes. *Photographic Engineering* 2, No. 2, 1951, Page 77. (From a paper given at the 1950 National Technical Confer-

ence, Illuminating Engineering Society). The author states that new photochemical lamps having a more uniform and a higher ultra-violet output have been developed using a new glass and electrodes. The lamps utilize a medium pressure mercury arc and are especially adapted for use with the modern Diazo white-print machines.

**The Aluphot Plate and Process.** Eugene Wainer. *Photographic Engineering* 2, No. 3, 1951, Pages 161-169 (9 pages). Aluphot is a recently developed Swiss invention which provides a method for making photographic reproductions on an aluminum base, such reproduction exhibiting a number of unusual properties and advantages for a large number of applications. Basically, the Aluphot plate is a photo-sensitive anodized aluminum sheet on which the photographic image is developed in the anodized layer. After sensitization and exposure in the standard darkroom printer, the image is then developed in a manner exactly comparable to that used for ordinary silver halide gelatine emulsion type pictures — that is, using standard developing and fixing

of the light incident to the surface is reflected at exactly the same angle from the perpendicular.

The presence of some diffuseness increases the range of angles over which some glare is being reflected back into the eye. Thus, for a large sheet of paper and a number of light sources it is almost impossible to view the sheet without having areas of moderate glare which appear to be reductions of ink density. A smooth surfaced paper, such as a coated sheet, will reflect so much light at the critical angle that glare is quite obvious and is generally not misinterpreted but can be extremely annoying. There is, then, an intermediate degree of diffuseness of the paper, which can result in a subtle amount of glare under ordinary sheet viewing conditions, which is conducive to improper evaluation of the printing quality and may not be detected readily by the viewer. This was found to be the primary cause of ink volume variations that were observed between day and night shifts. In the daytime, the source (generally used for viewing sheets) was daylight (north, east, west or south, skylight and sunlight) with little use being made of the commercial fluorescent fixtures. While certainly variable in color, the light coming in through frosted

wire glass windows supplied a preferable light from the point of view of physical distribution. Generally, therefore, the light source was of low brilliance and of a large area, and thus the glare was essentially eliminated. At night it was necessary to depend upon the two-lamp fixtures (4500° fluorescent) directly over each pressroom table. Under these viewing conditions no practical adjustment of sheet angle could be found which would eliminate glare from some portion of a 38x50 sheet. With the diffusive properties of an antique offset stock, this glare was unnoticed, and in order to compensate for what appeared to be a lack of color density, the inking frequently was increased beyond that run during the day. It is interesting to note that this resulted even when a sheet was "ok" for color during the day and merely maintenance of density to match this "ok" sheet was required at night. This disparity could be explained either by the relative position of the "ok" sheet on the table during the run, or from the natural inclination of the pressman to correct (especially on black and white) what was apparently a washed out print, the "ok" sheet notwithstanding.

There are two ways to eliminate this effect. First, to have a single point-like source (necessarily of high

brilliance) so arranged that the source is not reflected into the eye.

This gives very bad shadows and poor distribution over the sheet. It also requires proper placing relative to the viewer — i.e., over the shoulder, and does not allow for color mixing. In general it is not a practical solution. As the light source becomes greater in area, there is less tolerance in position, and more and more positions of the sheet will specularly reflect some light to the eye of the viewer.

If the total amount of light from a large area source is to equal the total light from a small source, it is obvious that the brilliance of the former can be quite low, roughly varying as the inverse of the ratio of the areas. A given spot on a sheet could reflect specularly only a small area of the large source, which would represent a small percentage of the total amount of light reaching the sheet from the entire source. This effectively reduces glare and in the ideal case the light source should be a ceiling and walls of light, the brilliance of which would only be slightly greater than that required of the sheet being viewed.

In designing a satisfactory light, we were forced to compromise with this ideal. Because of the illumination level elsewhere in the pressroom

chemicals. Outside of the unusual structural and physical properties, the finished Aluphot plate exhibits important properties from a photographic point of view such as the substantially grainless image, the high degree of resolution which can be expected, and the continuous tone. In addition, the plates are not affected by nuclear radiations.

#### Planographic Printing Processes

\***Planographic Printing Plates, British Patent 648,897.** Gevaert Photo-Producten N. V. *Photographic Abstracts* 3, 1951, Pages 181-182. A support carries a hydrophilic colloid layer which is treated to form ink-receptive areas with reducing agents and, after exposure, with salts capable of acting with more than one valency. In an example the stencil is formed on an unhardened silver halide emulsion layer by exposure through a negative, developing in a tanning developer such as pyrocatechol, washing away the unexposed parts in warm water, bathing in dilute citric acid, followed by a mixture of formaldehyde, pyrogallol and potassium ferrocyanide and finally with a gum arabic cupric chloride solution. Alternatively the exposure may be through

a positive, and the image reversed by developing in a non-tanning developer, followed by uniform exposure and development in a tanning developer. British Patent Office, 25 Southampton Buildings, London, W. C. 2, England.

\***Singly Coated Planographic Printing Plates and Methods of Making same, Canadian Patent 475,218.** Stephen V. Worthen. *Bulletin of the Institute of Paper Chemistry* 22, No. 1, September, 1951, Page 84. A method is described for the manufacture of paperbase planographic printing plates. As an example, a sheet of wet-strength paper is coated on one side with a composition which contains 100 parts of clay and 18 parts of casein dissolved in ammonia. About 15 pounds (dry weight) of coating is applied per ream (25 x 38 — 500). The coating is dried and calendered and then washed with a strongly ammonical solution to which 16% by weight of zinc chloride has been added. The sheet is dried and used as an offset plate. One thousand prints can be made from the plate without objectionable wet-through, and the printing quality is good. Institute of Paper Chemistry, Appleton, Wisconsin.

\***Lithographic Printing Plate, U. S. Patent 2,561,353.** James Finno. *Bulletin of the Institute of Paper Chemistry* 22, No. 1, September, 1951, Page 80. A planographic printing plate comprises an unbacked, single-ply, unsized sheet of uncalendered amyloid parchment paper which has a minutely fibrous, fine-grain surface whose Bekk smoothness is less than 25 seconds, and whose gloss is approximately 25%, as measured by an Ingersoll Glatrometer. The nonimage area of the plate is coated with an aqueous ink-repellent dampening solution which contains glycerin, sodium sulfate, boric acid, and gum acacia; the solution produces a nonpenetrating, nonsaturating film on the plate, thus preventing the stretching, wrinkling, or tearing of the sheet.

\***Photo-Mechanical Processes, British Patent 618, 181.** A. A. K. Whitehouse. *Abridgement of Specifications Group XX*, Page 274. Screens or stencils are made by coating or impregnating a foraminous sheet material with a mixture of an unsaturated linear polyester resin and polymerizable  $\text{CH}_2=\text{C}$  compound compatible therewith and a photo-sensitizer

and the large expanse of white paper generally being viewed, it was determined that the incident illumination level on the table should not exceed about 65 foot candles. If possible, the brightness ratio between the highest and lowest brightness areas should not exceed 3 : 1. For color adaptation it was found desirable to use daylight fluorescent tubes for general illumination of the pressroom. The intensity required at the viewing table was obtained by using an 8 40-watt tube source in a fixture which we designed and built. This fixture incorporated a diffusing sheet of plastic (Plexiglass 122-75-1/4") which was very much superior to ground glass in diffusing characteristics and low absorption. The overall size of this diffusing surface was 4' x 6' - 24 ft.<sup>2</sup>. The projected area of the bare tubes was 4.0 ft.<sup>2</sup>. The resulting brilliance of the diffuser was then about 17% that of the individual bare tubes. The tubes were located 7" apart about 6" from the diffuser to give very good diffusion with relatively little loss of light. These fixtures were mounted above the viewer, overlapping the front of the inspection table one foot, and tilted so that the front of the fixture was 98° above the floor and the rear 86° above the floor, the table being 35" high. This resulted

in shadowless, glare-free illumination which varied only slightly from the front to the back of the table.

The final design of this lamp is shown in Fig. 2. There are in all, eight tubes, four to a box; the sequence used is as follows: daylight, Deluxe cool white, blue, daylight. In the next box, the sequence is repeated. The diffuser frame is hinged to allow rapid changing of burned out tubes. The unit pictured here was made for us by a local fixture manufacturer, at a rather nominal price.

Since these lighting units were installed in our pressrooms and our color department, the day to night variations appear to have disappeared and the pressmen, color artists and other operating personnel have been enthusiastic about the comfort and accuracy of viewing with this type of illumination. While this is not suggested as being the ultimate in pressroom illumination, it has proved an inexpensive and satisfactory solution to a serious, and, I am certain, a widespread problem.★★

Figure 2. The final design of the lamp shown in use in the pressroom.



for the mixture, exposing the coated sheet to light through a negative of the required pattern to harden the mixture on the unscreened portions, and then treating the sheet with a solvent to remove unhardened mixture. Woven textile fabric is preferred as sheet material, particularly silk fabric. The unsaturated linear polyester resin may be made by condensing a dihydric alcohol such as ethylene glycol, di- or tri-ethylene glycol or propylene glycol with an unsaturated dibasic acid or anhydride such as maleic, citraconic or itaconic acids or anhydrides, or fumaric acid or their adducts with diolefins such as cyclopentadiene in approximately molar proportions; or by reacting an unsaturated dihydroxy alcohol with a saturated dibasic acid or anhydride, such as phthalic anhydride; or an unsaturated hydroxy acid may be caused to undergo a poly-condensation reaction. The polymerizable  $\text{CH}_2=\text{C}$ -compound may be styrene, vinyl esters or acrylic or methacrylic acids or esters. Quinol or other inhibitor is added to stabilize the mixture during preparation and storage; if the amount is small it does not inhibit photopolymerization. Styrene has been found to be particularly suitable and commercial styrene already contains a stabilizer. The photo-sensitizer may be a ketone such as benzoin or benzophenone. Plasticizers such as tricresyl phosphate or dibutyl phthalate may be included in the sensitive mixture. Exposure may be effected by projection or by contact printing, and in the latter case a regenerated cellulose sheet may be placed between the coated sheet and the negative to prevent contamination of the latter with resin. Ultra-violet light hardens the resin mixture more rapidly than visible light. Acetone, diacetone alcohol or benzene may be used to remove the unchanged resin mixture, and after drying coated fabric so prepared is ready for use by the standard technique of silk screen printing. British Patent Office, 25 Southampton Buildings, London W. C. 2, England.

#### Paper and Ink

**Inkometer Measures Length and Tack of Inks.** Charles F. King. *Inland Printer* 127, No. 6, September, 1951, Page 66. When sensitization of the plate occurs due to transfer of ink of previous color from paper to blanket to plate, increasing the setting speed of the ink does not cure the problem. Piling of ink will occur when it is insufficiently ground. Anomalies have been obtained in ink trapping when using the Inkometer to test tack. Unlike previously published data, the author's experimental evidence indicates that ink tack increases with volume carried. Introduction of the water factor would improve Inkometer value.

**\*Rule of Thumb for Printing Papers.** Jack Taylor. *Am. Paper Merchant* 48, No. 9, September, 1951, Pages 25, 62-63. A series of tests is presented which do not require scientific apparatus and which can be used by the paper merchant for determining the quality of paper for printing. These include tests for finish, formation, opacity, strength, surface sizing, caliper and bulk, bursting strength, pasted bristles and covers, coating, grain and curl and curl and stretch. The information is taken from the author's book "The Characteristics and Functions of Printing Papers". *Bulletin of the Institute of Paper Chemistry* 22, No. 2, October, 1951, Page 126. Institute of Paper Chemistry, Appleton, Wisconsin.

**Finding Paper Grain.** Craig Spicher. *Printing Equipment Engineer* 81, No. 12, September, 1951, Page 25; 82, No. 1, October, 1951, Page 47. The wire and felt sides of a sheet of machine-coated paper may be determined by first finding the grain by folding the sheet and then tearing a semicircular corner of the sheet perpendicular to the grain. The tear should be made with a circular motion to show a splitting of the coating from the pulp. A similar tear should be made on the reverse side and the results compared. The felt side shows the greatest removal of coating. 2 illustrations.

**\*Method and Apparatus for Testing Papers and the Like.** U. S. Patent 2,568,199. Noel Martinet. A method and apparatus are adapted for the determination of the ink permeability of paper and cardboard. The sample to be tested is placed between two electrodes which are inserted in a measuring circuit and is brought into contact with ink under given conditions of pressure and temperature. The permeability of the sample under test is determined by the time required by the current to reach a given value in the measuring circuit under constant-voltage conditions. *Bulletin of the Institute of Paper Chemistry* 22, No. 2, October, 1951, Page 156.

**Overcoming Difficulties in the Printing of Machine Finished Papers.** E. Aiken. *Pulp and Paper Magazine of Canada* 52, No. 12, November, 1951, Pages 100-101 (2 pages). The author discusses paper problems the printer experiences. They include edgebound sheets, curl, dust, irregular cut or broken sheets, picking, excessive ink absorbency, lack of uniform finish, lack of opacity, static, and brittleness.

#### Lithography—General

**Modern Trends in Lithography.** Paul J. Hartschuh. *Printing Equipment Engineer* 81, No. 12, September, 1951, Pages 60-2 (3 pages). Among the recent developments in lithography, the author mentions the use of a high wet-strength paper wrapper for the damper rollers. It is removed and replaced when it becomes dirty, and eliminates the problem of cleaning the rollers. Also discusses masking, colored fluorescent lamps for making color separations, motor-driven arc lamps, a new method of making improved half-tones with the Kodak Magenta Contact Screen, color scanners, pre-Cronak, post-Cronak, post-Brunak, cellulose gum, soybean protein, Sensitivity Guide, vapor blasting for graining, use of metals besides zinc and aluminum for plates, multimat plates, presensitized plates, blanket thickness gauge, and press, paper and ink improvements.

**Transparent Proofs From Type Forms.** Morris S. Kantrowitz, Arthur A. Dillon, and Earl J. Gosnell. *Modern Lithography* 19, No. 10, October, 1951, Pages 47-48, 55, 57, 111, and 113 (6 pages). This is the first article of a condensation of a 24-page booklet (of the same title) available from the Supt. of Documents. Listed are definition, trade practices, powdering or dusting, opacity of the image, thickness of sheeting, compression of offset blanket, and new printing ink.

**Presenting all the Fine Points about the Inking System of the Offset Press.** Charles W. Latham. *American Printer* 132, No. 9, September, 1951, Pages 34-35,

58, 60, and 62 (5 pages). Evolution and operation of the modern inking system are described. The author covers setting and adjustment of the system, method of operation, and points requiring care.

#### Graphic Arts—General

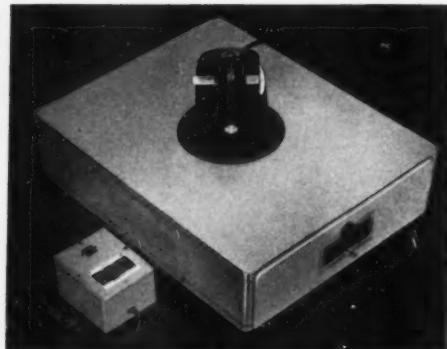
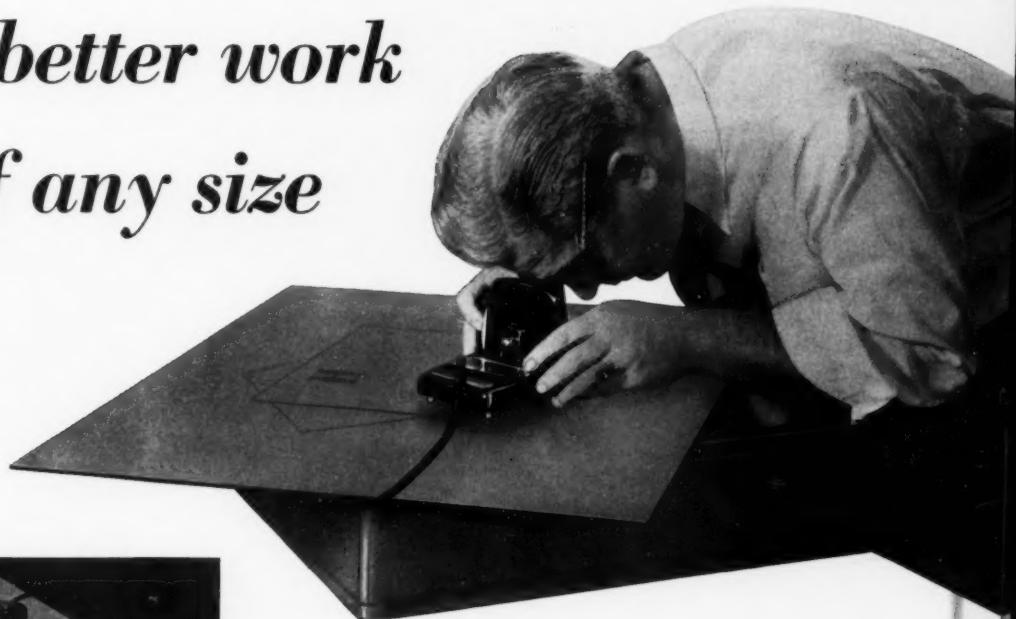
**Kodak Research in the Graphic Arts.** Walter Clark. *Photo-Engravers Bulletin* 41, No. 4, November, 1951, Pages 51-57 (7 pages). A brief history of the Kodak Research Laboratories in Rochester, N. Y., which now employs a staff of over 600. The graphic arts section of the laboratory is discussed in greater detail, reviewing some of the work which has already come out of it on photographic aspects, such as the contact screen, color correction techniques, electro-optical scanning machine for making color-corrected separation negatives, and the fluorescence processes. Active research is now being done on some of the problems of printing itself. These studies include basic problems of "printability" and the "theory of tone reduction." Also mentioned are the current work on a plastic printing plate called the Etalith plate which is intended for use in a system designed to permit high quality color reproduction for runs of about 5000 on offset duplicators. A new photosensitive system employing polymers which are light-sensitive in themselves and which make it possible to presensitize and store metal plates is now in the experimental stage. Work is also being carried on in the preparation of photographic silk screen resists.

**\*Graphic Arts Process Useful For Short Runs.** *Modern Lithography* 19, No. 12, Dec. 1951, Pg. 83; *Chemical and Engineering News* 29, No. 50, December 10, 1951, Page 5290. A new graphic arts process called Perma-Stat has been announced by Trans-Gel Products, Inc., Queens Village, N. Y. The process employs an emulsion and makes possible the reproduction of anything that is photographed, written, drawn, or printed onto plastic, metal, wood, glass, leather, or any other nonporous surface, according to the announcement. The emulsion, which is a dichromate stabilized gelatin, is applied to the material to be reproduced. The copy is photographed and the negative placed against the treated surface. Because the emulsion is sensitive only to concentrated ultraviolet rays, the negative is exposed briefly to a carbon arc lamp or an ordinary sun lamp. The final step is a dip into the dye of the desired color, followed by a quick rinse in clear, cold water. Any number of colors may be perfectly registered in sharply detailed form. Because there are no plates or screens involved, Perma-Stat is economical for short-run reproductive process, the report states. Further information about this item (CS4) can be obtained from Readers' Information Service, Chemical and Engineering News, 332 W. 42nd St., New York 18, N. Y.

**\*Printing Machines.** British Patent 614,023. F. H. Levey, Co., Inc. *Abridgment of Specifications Group XVI*, Page 156. In a web or sheet perfecting printing-machine the material to be printed is heated before being printed to a temperature high enough to cause quick drying of the ink but below the point at which discoloration of the material would occur, e.g. between 225°F. The ink used consists of a pigment in a vehicle

(Continued on Page 105)

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## Brooklyn Ink Firm Observes 50th Year

KIENLE and Company, Brooklyn, manufacturers of offset and metal decorating inks and other types of inks for the graphic arts, is observing its 50th anniversary in 1952. From a modest beginning in space at Walton Avenue and 144th St., Bronx, N. Y., the company has grown steadily. It now occupies a large modern factory building at 33 Nassau St., Brooklyn, where some 30 three-roller ink mills are operated and modern laboratories are maintained.

Eugene Kienle and Charles Bader founded the company in 1902. Both previously had been with the Charles Hellmuth Co. After five years in the Bronx, the young company was moved to South Fifth St. in the Williamsburg section of Brooklyn. The company specialized in "custom-made" quality inks to meet customers' special needs.

This policy led to an arrangement to supply lithographic inks to the largest metal lithographer in the country. Over the years since that time, this business, plus the increasing output of inks for printing and lithographing on paper, made further expansion necessary. The present plant was contracted for and operations transferred there in 1925.

The founder died in 1928, and his son, Eugene C. Kienle, assumed the presidency of the company. Mr. Bader continued active in the business until his death in the Morro Castle disaster in 1934. Herbert J. Wolfe, an ink chemist of many years experience, was brought into the company to take over Mr. Bader's duties and to expand the technical side of the business. Shortly thereafter, Ralph Henderson, a former banking executive, came with the company to assume charge of the financial and purchasing aspects of the business. Mr. Henderson was elected to a vice presidency in 1936, and Mr. Wolfe to vice president in charge of research in 1941.

Upon the sudden death of Eugene C. Kienle in January, 1950, Mr.

Wolfe was elected president and Mr. Henderson executive vice president and treasurer of the corporation. Mrs. Julia Kienle, the widow of the founder, who has been associated with the business since 1902, serves as the secretary of the company.

During the years from 1934 to 1945, the company was forced to expand its plant three times, the third

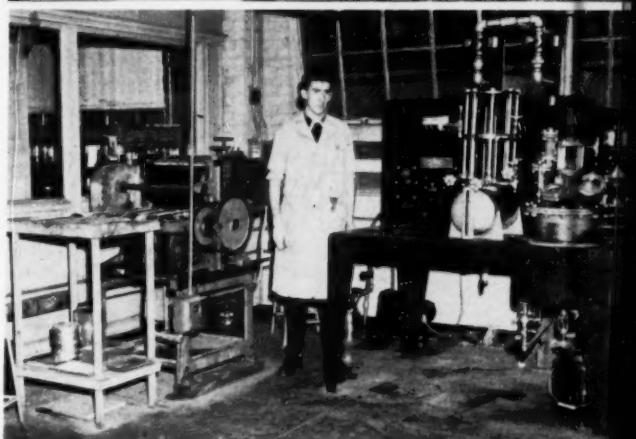
expansion being the addition of 20,000 square feet of enlarged laboratory and varnish department space. The new laboratories are modern in every respect and are equipped with the latest instruments for research and development work on inks, dry colors, varnishes, resins and oils. The laboratory building houses five inter-connected laboratories: a control and color matching laboratory, customer

(Continued on Page 107)

The Kienle plant occupies a block-front on Nassau Ave., Brooklyn, between Dobbins and Guernsey Sts.



Of the five laboratories operated by Kienle, one, shown here, is a laboratory pilot plant for the small scale manufacture of synthetic resins, and testing of resin formulations.



The Kienle company is re-equipping for many of the mixing operations with the new Troy angular mixers, the newest and most efficient mixers used in the printing ink field.





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*Division*

# METAL DECORATING

## Offset Aluminum "Decals"

By Ray Bloomberg

Seattle, Wash.

(While the process described and pictured here cannot be classed as metal decorating in the common sense, it is of interest to metal lithographers as well as to other segments of the industry.—Editor.)

**A**S the result of a development by the Boeing Airplane Co., Seattle, Wash., aluminum is replacing paper in the manufacture of "decals" for certain uses on objects ranging from golf clubs to airplanes.

Boeing developed the product, trade-named "Metal-Cal," as an improvement on the conventional paper-borne decals it previously mounted by the hundreds inside and outside its airplanes to identify various pieces

of equipment, give instructions, etc. Today, Metal-Cals are manufactured not only by Boeing, for its own use, to the extent of as many as 2,000 for a single plane, but under license by the C & H Supply Co. of Seattle for non-aircraft applications.

Metal-Cals are almost abrasion-proof, stick solidly and easily to any smooth, clean surface and are little more expensive than the paper decals when produced in quantity. They are made of aluminum stock .003" thick, on which are imprinted type or designs, with a cellophane-covered cement backing for easy application.

The process consists of creating a color retentive coating on the surface of the foil by chemical means, then

In the production of Metal-Cals, the aluminum sheets, .003" thick, first are chemically processed to produce a hard color-retentive film.

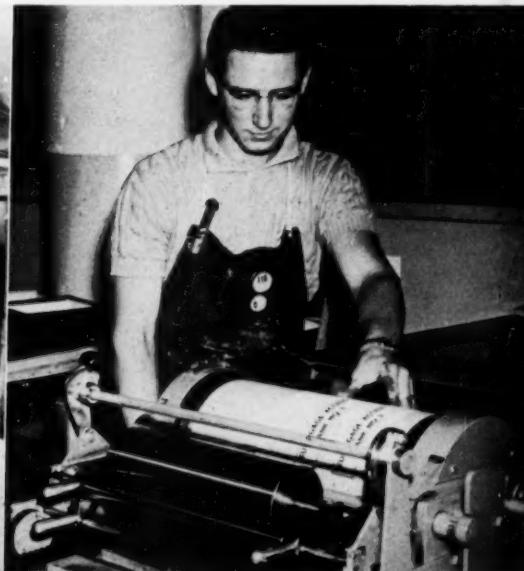
Another step in the process is the pulling of proofs of type matter on a Vandercook proof press.

applying the printing by a standard Multilith offset process, in any color.

Subjected to an abrasion test, Metal-Cals have remained legible after 18,000 wearing cycles, whereas the best of conventional paper decals became illegible after fewer than 1,000 cycles.

C & H has produced more than 50,000,000 Metal-Cals in three years, as nameplates on golf clubs, fish poles and ski poles, and for Westinghouse, General Electric, Northwest Airlines, Trans World Airlines, United Air Lines, Braniff Airways, Emerson Radio & Phonograph Corp., Montgomery Ward, Emerson Electric, RCA's Victor Div. and others.

(Turn the Page Please)





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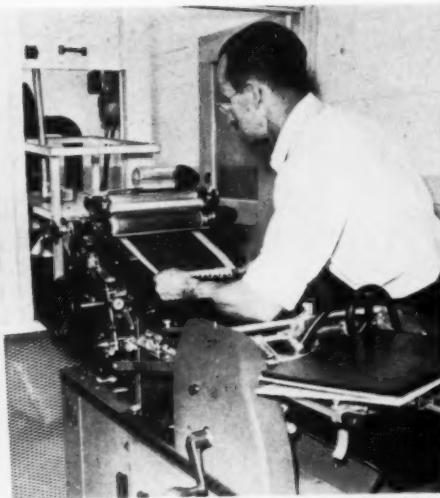
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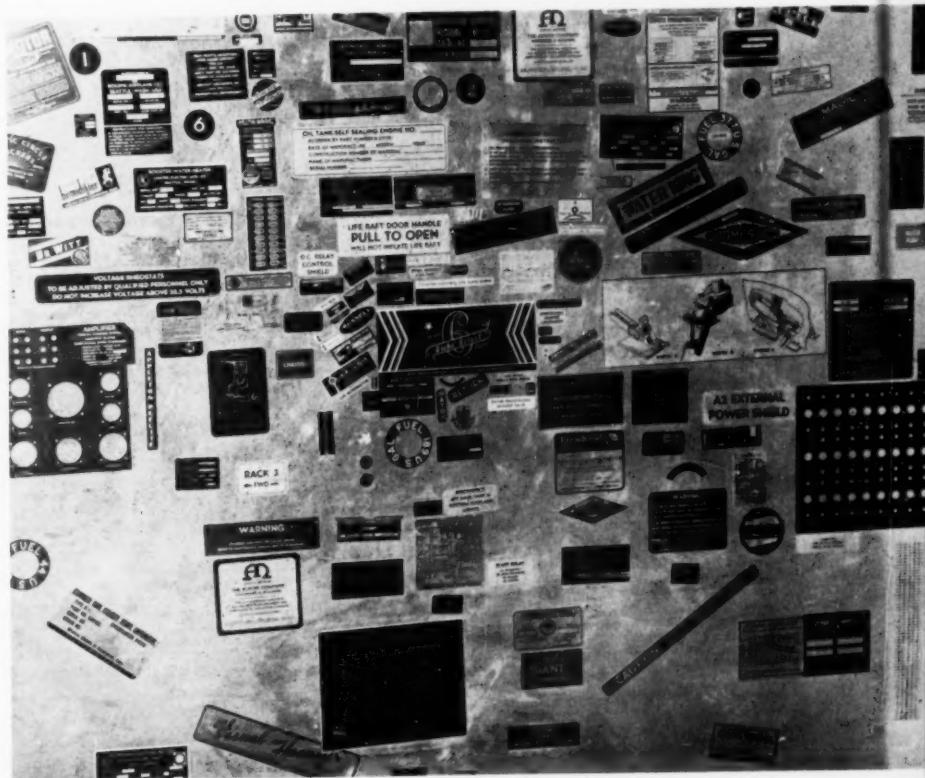


The aluminum foil sheets are run through this Multilith, then carried by the conveyor at left through engraving powder. Passing through an oven, the heat fuses the powder into the ink. Blowers cool the sheets, finishing the process.



This view from the delivery end of the conveyor shows sheets passing under blowers, following the oven step, shown at far end. A suction unit removes excess powder before the sheets reach the oven. The system runs 750 sheets an hour, with as many as 100 Metal-Cals on a sheet.

Metal-Cals are being used in a variety of places as these samples indicate. (For an illustration of their use in an airplane, see front cover.)





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### **Canco Intensifies Research**

A major organizational change to enable the American Can Company to place more emphasis on creative research through establishment of a new Research and Technical Service Department was announced in December by Dr. R. H. Lueck, general manager of research.

Designed to create and develop original ideas and techniques, the newly established department will consist of the Research, Development, Technical Service and Agronomy divisions.

The Research and Development divisions will be concerned with applied research in the fields of packaging and container manufacture, including such projects as the conservation and eventual elimination from containers of tin, new containers for beverages, and investigation of the cold sterilization of canned foods.

To carry out this combined program of research and technical service, the company has appointed Dr. B. S. Clark, formerly director of research, as scientific director. Dr. R. W. Pilcher, former associate director of research, has been appointed director of the new research division.

A special laboratory at Maywood, Ill., will be devoted to applied research, exclusively, while the remainder of the staff of the former general laboratory at Maywood will function as a technical service unit for the company's Central Division along with similar divisional laboratories at Newark, N. J., San Francisco, and Hamilton, Ont.

"Particular emphasis", Dr. Lueck said "will be placed on the company's current 'Operation Survival' program with a view toward the freeing of this country in the shortest possible time from dependence upon foreign tin supplies."

In the can manufacturing industry, as well as in other industries, he said, there has been a steadily growing need for research programs where a group of men, each trained in a separate field of inquiry, could be thrown into the attack of a problem as a team and be permitted to pursue

their effort uninterruptedly over a prolonged period.

The can company's new Research and Technical Service Department had its origin in 1906, five years after the company was founded, when a raw materials testing laboratory was established to check on supplies purchased for can making. During the years, this laboratory developed into the company's present research and technical service facilities in the U.S. and Canada.

•

### **Tin Remains in Short Supply**

Tin may not be available in sufficient quantities to meet first quarter requirements, without drawing on the government's strategic stockpile, National Production Authority spokesmen said last month. Even though tinplate producers have been promised enough tin to continue top production, this high production may not be maintained through March, it was said. Alternatives included a resumption of tin imports, or reduction of NPA tin allocations. The Reconstruction Finance Corp., which controls tin imports was entering into further negotiations with foreign suppliers. No tin has been imported since last March, in an effort to bring down prices of the raw material.

•

### **Predicts No Tin in 25 Years**

There is a strong possibility that there will be no tin whatsoever for containers in 25 years, according to Thomas F. Brennan, general sales manager of the non-food division of American Can Co., New York. In a talk before the Chemical Specialties Mfrs. Assn. in Washington last month, he discussed can manufacturing facilities. He stated that many changes will take place in the use of containers, "greater than anyone can conceive", but added that such changes will be for the better, and will occur without dependence upon foreign sources for many so-called strategic materials. Mr. Brennan urged the delegates to look to tomorrow rather than to yesterday in the container field.

### **Decorated Metal Moves to N. J.**

Decorated Metal Manufacturing Co., formerly located at 199 Sackett St., Brooklyn, moved into its new location, 74 Washington Ave., Milltown, N. J. during December. George Atwood, Jr., vice president, said that the firm also had given up its lithographing department and that this phase of the work now is being farmed out. The company makes wire spools and adhesive tape spools. The plant provides 80,000 square feet of usable space, Mr. Atwood said, and is located on a tract of eight and one-half acres. It is served by a railroad.

Besides Mr. Atwood, other officers are George D. Atwood, Sr., president, Rawson Atwood, vice president, Harold A. Dodd, treasurer, and Charles Welling, secretary.

### **Grodemange Improving**

Ed Grodemange, Fuchs & Lang Mfg. Co. representative in Milwaukee, who suffered a shock about two months ago, was reported to be improving late in December. The shock occurred in a hotel room while Mr. Grodemange was on a business trip. He was unable to call for assistance for several days and was finally aided by hotel officials who entered the room after they suspected something was wrong.

### **Hilton-Hawley in New Plant**

Hilton-Hawley Co., maker of printing and litho inks, planned to be moved into its new plant at Galloway Rd. and Lockland Expressway, Cincinnati, by January 1. The new structure, a one-level building, is located on an eight-acre tract, and replaces the old plant at 2735 Coleain Ave. The company was founded in 1923, and C. B. Hawley is president.

### **Gives Wage Rules Summary**

A five page bulletin summarizing recent rulings and interpretations by federal agencies on the payment of bonuses to employees was sent out during December by the Metropolitan Lithographers Assn., New York, to its members. E. Ames Hilberts is executive secretary of the MLA and Daniel Arvan is counsel.

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W.A. Goldsmith  
Technical Director

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# NEWS ABOUT THE TRADE

## Wages Up Again in N. Y.

The Metropolitan Lithographers Assn., New York, has announced that a wage increase of one (\$1.00) dollar per week (2.76¢ per hour) became due on January 1, 1952 under the cost of living wage adjustment plan with Local 1 of the Amalgamated Lithographers of America. The Consumers Price Index for New York City for October 15, 1951, the quarterly review date, was 183 on the Old Series and 183.8 on the Revised. A comparison between the October 15, 1951 B.L.S. Index and the July 15, 1951 B.L.S. Index shows a full two point change, which calls for a wage increase under the agreement.

## Soderstrom Back in U. S.

Walter E. Soderstrom, executive vice president of the National Assn. of Photo-Lithographers, New York, returned December 14 aboard the liner *Liberte*, after a tour of Europe and the Middle East which lasted several weeks. During the trip he addressed several lithographic organizations, and visited a number of plants. His business also included ceremonies in Britain of the Masonic Order in which he represented Masons of New York State. In addition to England, his itinerary included Denmark, Sweden, Holland, France, Italy, Greece and Israel.

He is to tell of his experiences in an address before the Litho Club of New York, January 23.

## Spurgeon Tucker to Move

Spurgeon Tucker, Inc., New York lithographing firm, has announced its purchase of a building in the Bronx, N. Y. covering a block bounded by 141st St., 144th St., Park Ave. and Canal Place. The company, now occupying 45,000 square feet on four floors at 52 East 19 St., plans to move its plant and expand, using 60,-

## Your Magazine Has Moved

*Modern Lithography* moved January 1 to:  
**175 Fifth Avenue  
New York 10, N. Y.**

This affects all correspondence and business whether editorial, advertising or subscriptions. Advertisers should still send plates to ML, c/o Watkins Printing Co., 123 Market Place, Baltimore 2, Md., as usual.

000 square feet on a single level in the new building, which contains 100,000 square feet. The building was purchased from Haiss Mfg. Co.

Plans also include the installation of new camera and projection equipment, and two 69" Harris presses, a single- and a two-color. The additions will make a total of ten presses operated by the firm which produces 24-sheet posters and other lithographic work.

Mr. Spurgeon Tucker heads the firm, C. J. Cassidy is secretary, and Harold Newton is sales manager. The company was formed in 1929. Prior to that time, Mr. Tucker operated the Tucker Lithograph Co.

## Paper Meetings in Feb.

The annual conventions of the American Pulp & Paper Assn. and of the Technical Assn. of the Pulp & Paper Industry (TAPPI) are to be held in February. The TAPPI meeting is February 18-21 at the Commodore Hotel, New York. The APPA meeting is at the Waldorf, February 19-22.

## Wetzel in New Plant

Wetzel Brothers, Milwaukee lithographing and printing firm, recently occupied newly acquired space at 120 N. Broadway, and held open house. The company's plant at 444 N. Broadway, which it has occupied since 1908, is still being maintained as a letterpress and platemaking section, while the new space is for lithographing operations. About 20,000 square feet are occupied in the new location and 30,000 at the old. New equipment includes a four-color press.

Arthur A. Wetzel company president, who also is president of the Printing Industry of America, said that the expansion cost several hundred thousand dollars. The company, which is 65 years old, now employs about 150 persons, a seven-fold increase in 11 years.

## N. Y. Exhibition Open

The 1952 Printing for Commerce exhibition was scheduled to open in New York January 15 at the Architectural League galleries, 115 E. 40 St., the American Institute of Graphic Arts, sponsor, announced. Judging of the entries was completed in December. Burton Cherry, Cuneo Press, Chicago, headed the seven man jury.

## Book Papers Ceilinged

Ceiling Price Regulation 106, setting dollars and cents prices on coated and uncoated book papers, and effective December 19, was issued last month by the Office of Price Stabilization. Prices are set on six basic grades, and procedure is outlined for establishing prices for others.

## Detroit Companies Add Presses

Wainscott Printing Co., and Esterling Printing Co., both of Detroit, recently added Miehle 29" offset presses, it was announced.



Members of the educational council are shown here as they met in Washington last month. Left to right: Herbert Livesey, secretary, National Association of Printing Ink Makers; Byron C. Culver, secretary of the council, Supt., Dept. of Publishing and Printing, Rochester Institute of Technology, Rochester, N. Y.; and representative of the International Graphic Arts Education Association; Wade E. Griswold, executive director, Lithographic Technical Foundation; E. G. Williams, treasurer of the council, president of American Type Founders; and representative of the National Printing Equipment Association; Bernard J. Taymans, assistant to the president of the council and assistant general manager of Printing Industry of America; James J. Rudisill, president of the council, chairman of the Education Committee, Printing Industry of America, and president of the James J. Rudisill Co., Lancaster, Pa.; Elmer Voigt, first vice president of the council, and an executive of Western Printing & Lithographing Co., Racine, Wis., which through its contribution of \$5,000 is the only company member of the council; Harry L. Gage, second vice president of the council; James R. Brackett, general manager of Printing Industry of America; Ralph Cole, president of the Consolidated Lithographing Corp., Brooklyn, N. Y., and chairman of the education committee, Lithographic Technical Foundation; W. O. Morgan, Chicago Lithographic Institute, teacher training representative on the council's executive committee.

### **Education Council Develops Expanded Industry Program**

MEMBERS of the executive committee of the Education Council of the Graphic Arts Industry last month made plans for three publications for industry-wide educational use following an \$18,000 publications fund grant. The group met in Washington to develop a program leading to the avoidance and elimination of duplication of industry activity in education.

The Council brings together the following organizations: The Lithographic Technical Foundation, International Graphic Arts Education Association, the National Association of Printing Ink Makers, The National Association of Printers Roller Manufacturers, The National Printing Equipment Association, and Printing Industry of America. Other national graphic arts organizations have been invited and are considering affiliation.

National Graphic Arts Exposition, Inc., which held its third mammoth equipment exhibition in Chicago last year has made possible a strong beginning for the council through the

establishment of an \$18,000 revolving publications fund.

This fund was granted by the executive committee of the Expositions corporation at a meeting held in Chicago in November.

Initially, this fund will be used to publish two orientation manuals and a safety manual. These manuals will be tools for all graphic arts groups in interesting new personnel, indoctrinating personnel, and in carrying on related training programs. The safety manual will be the basis for an extensive safety education program, which, if successful, could represent substantial savings for the industry in the reduction and elimination of accidents. A. E. Giegengack, president of National Graphic Arts Expositions, Inc., stated that the executive committee of that corporation recognizes the broad, overall character of the council and its program, cutting across all groups in the industry.

The fact that the \$18,000 represents a revolving fund rather than a one-time expenditure will enable the

Council to issue a long series of publications as a result of the establishment of this fund due to the self-liquidating character of the project.

The Council is not another trade association, but substantially represents a coordination among graphic arts organizations and a perusal of the council's membership shows clearly that duplication and waste can be avoided and important general activity undertaken without the danger of conflict and competition among the industry's organization, the council's announcement stated.

The Council accepted into membership Carnegie Institute of Technology and Rochester Institute of Technology as associate members in recognition of the work that these two institutions did in helping to establish the council. In taking this action it was indicated that others will be considered for admission as they participate in council activities.

The members of the council's executive committee are: president, James J. Rudisill, Rudisill and Co., Lancaster, Pa.; 1st vice president, Elmer Voigt, Western Printing & Litho Co., Racine, Wis.; 2nd vice president, Harry L. Gage, Graphic Arts Consultant, Gloucester, Mass.; treasurer, E. G. Williams, American Type Founders, Inc., Elizabeth, N. J.; secretary, Byron C. Culver, Rochester Institute of Technology, Rochester, N. Y.; Wade E. Griswold, Lithographic Technical Foundation, New York; Anthony J. Math, Sinclair and Valentine, New York; Thomas W. Ford, Sr., Harrigan Roller Co., Baltimore; Don H. Taylor, New York Employing Printers Assn., New York; W. O. Morgan, Chicago Litho. Institute Inc., Chicago; Ralph Cole, Consolidated Litho. Corp., Brooklyn; James E. Bennet, National Printing Equipment Assn., New York; Herbert Livesey, National Assn. of Printing Ink Makers, New York; James R. Brackett, Printing Industry of America, Inc., Washington, D. C.; and Fred J. Hartman, International Graphic Arts Education Assn., Washington, D. C.

## Sees Continued Color Demand

The trends to lithography and to more color in all kinds of printing are expected to continue in 1952, and this in turn should support the increasing demand for multi-color offset equipment. This is the opinion of George S. Dively, president of Harris-Seybold Co., Cleveland, who at year's end outlined the prospects for the new year. Excerpts from his statement follow:

"A realistic analysis of the outlook for the graphic arts industry for 1952 must reflect the dominating importance of international events and government programs.

"Graphic arts equipment manufacturers will undoubtedly experience increasing production problems in 1952. Continuing demand for printing equipment will probably come into more conflict with the increasing shortage of raw materials. At the same time, pressure for more conversion to defense work can be expected.

"Most printing equipment manufacturers are now diverting a considerable portion of their productive facilities to defense work. Harris-Seybold is presently scheduling 35% to 40% of its manufacturing capacity to defense, primarily machine tools and aircraft jet engine components."

The demand for color "should support the increasing demand for multi-color equipment, which was reflected last year in Harris-Seybold's shipment of its 100th 4-color and first 5-color offset presses.

"The Company's extensive engineering and research activities will continue on both civilian and defense projects. The enlarged product development program has resulted in the introduction of new or redesigned models of almost every machine in the line since the last war. Also, to meet special requirements of the Armed Forces, the new 17 x 22 and 21 x 28 presses have been developed into mobile, package units.

"Harris-Seybold will make every effort during the coming year to serve both the printing industry and the nation's defense program."

## Changes at Star-Kimble

James M. Adair, sales manager, Star-Kimble Motor Division of Miehle Printing Press and Mfg. Co., Bloomfield, N. J., last month announced the opening of new branch sales offices in Milwaukee and Cincinnati, and the appointment of a new sales engineer serving the northern New Jersey territory.

The Cincinnati office, located in the Roselawn Center Building, will be in charge of Lloyd Steinmetz, a graduate of the University of Alabama in electrical engineering.

MODERN LITHOGRAPHY, January, 1952

Robert L. Palmer heads the Milwaukee office located at 312 East Wisconsin Ave. Mr. Palmer attended Northwestern University's Technological Institute and the Illinois Institute of Technology. He has worked in the Chicago office of Star-Kimble for 3½ years.

Thomas R. Mahoney, covering the northern New Jersey territory and working out of the company's headquarters in Bloomfield holds an electrical engineering degree from Manhattan College.

## Mayer Reports on Tour

Edward N. Mayer, Jr., president of James Gray, Inc., New York lithographing, printing and direct mail firm, told the Young Lithographers Assn. on December 2 at the New York Advertising Club, of some of the things he observed on his recent world-circling tour. Mr. Mayer, who represented the U. S. State Department, told of the work the government is doing in distributing information to all parts of the world.

He outlined the problems involved as a gigantic selling job, and analyzed ways and means of getting the American story to peoples of the world to combat the widespread communist propaganda. In America virtually everyone could be reached by direct mail, through publications, or through

radio, he said. But beyond the U. S. and Western Europe, the postal system does not provide adequate means for direct mail, there are not enough radios to reach the masses, and publications do not enjoy such widespread circulations. Other means must be found, and these include many types of printed and lithographed literature, handbills, posters, and publications. These are distributed by any means available locally.

Printing usually is done in the local area as is also translating from English, so that the material will be in the vernacular of the people it is to reach. Much of Mr. Mayer's tour was spent in studying printing facilities in out-of-the-way corners of the world.

The next meeting of the YLA was planned for January 9.

## Dallas Firm Expanding

Bennett Printing Co., Dallas, recently announced the installation of two Harris 17 x 22" offset presses as part of an expansion program. The company also announced the appointment of Lewis N. Carrell to its sales staff. Mr. Carrell was associate editor of the *Southwest Hardware and Implement Journal*, and prior to that was in printing production for nearly 15 years.



## Opens N. C. Branch

IPI has announced the opening of a new branch office and service station (above) in Charlotte, N. C., to serve printers and lithographers in the Piedmont area. This new unit offers the Carolinas complete printing and lithographic ink service with special at-

tention to the needs of package printers, IPI said. It is located at 117 West Griffith Street, and is built of brick and reinforced concrete. It provides about 7,000 square feet. Trucks and a railroad siding serve the building.

Morris Wachtel is in charge of the IPI Charlotte Branch.

# Hamilton Papers on the job

## THE BOOKLET

Personal salesmanship is most effective when it is backed up by a continuing flow of direct-mail advertising. Folders, brochures, booklets—all kinds of printed persuasion—maintain liaison with prospects and customers between calls from your representatives.

This booklet suggests an ideal form for a convincing sales message. The cover attracts attention. The text is clear, and spaced for easy reading. Printed by letterpress

on Hamilton Text and Cover Paper, it has a distinctive quality, a refinement that reflects to the credit of the advertiser.

Hamilton Text and Cover Papers offer a wide variety of textures, colors and prices. They are specially made to provide beautiful backgrounds for advertising matter. Your printer knows these papers well. Ask him to use one or more Hamilton Text and Cover Papers for your next promotional piece.

## HAMILTON PAPERS

W. C. Hamilton & Sons • Miquon, Pa.  
Offices in New York • Chicago • Los Angeles

The booklet "Now you listen to me!" aims a few constructive criticisms at a phase of personal salesmanship. Fill in the coupon below for a free copy. Quantity reprints, with your imprint on the back cover, available at cost.

W. C. HAMILTON & SONS, DEPT. M-1, MIQUON, PA.

Please send me the booklet "Now you listen to me!"

Name \_\_\_\_\_

Address \_\_\_\_\_

Firm Name \_\_\_\_\_

City \_\_\_\_\_ / Date \_\_\_\_\_ State \_\_\_\_\_



This advertisement is seen by the quarter-million readers of the January issue of

## FORTUNE

### HAMILTON BUSINESS PAPERS

Fine Papers for Every Office Need



**Hamilton Bond.** A fine, uniform sheet for business letterheads and forms. White, ivory and 10 distinctive colors. Wove, ripple and cockle finishes. Genuinely watermarked and surface sized—with envelopes to match.



**Hamilton Bond Script.** A beautiful laid surface, genuinely watermarked. In white and ivory—with envelopes to match.



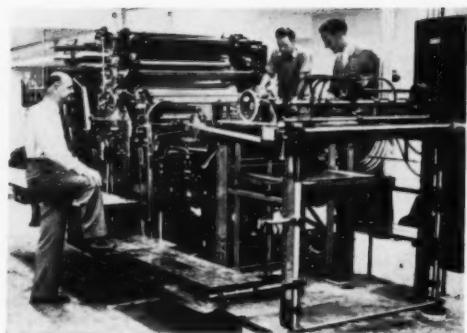
**Hamilton Ledger.** A clean, clear sheet for keeping business records. White and buff, genuinely watermarked.



**Hamilton Mimeo Bond.** For clear mimeographed forms, circulars and sales letters. Prints well—feeds fast and easily. White and six distinctive colors—genuinely watermarked.



**Hamilton Duplicator.** For best results on all types of duplicating machines. A smooth surface, genuinely watermarked. Lies flat, feeds easily.



## Washington State Co. Adds Press

The Yakima (Wash.) Daily Republic recently installed this new ATF-Mann offset press. Final inspection of the chrome plated, bright yellow interior is being made by Clyde Morris, manager of Republic Press, Nelson Kerr, "Republic" pressman, and Jack Baker of the George Mann Company, Limited, London.

### Union Employers Form Group

Organization of a Union Employers Section of the Los Angeles PIA has been completed. Functions of the section are being conducted by an executive committee composed of Ralph Shepherd of Bryan-Brandenburg, Jerry Maras of Pacific Press Inc., John Davidson of Western Lithograph Co., Sam Terry of Oxford Press, Gordon Matson of Modern Typesetting, and R. H. Bovard, of the PIA, who is secretary.

More than 40 percent of the firms in the PIA operate under one or more union contracts, it was said. Until now, their efforts in negotiating contracts have been largely an individual endeavor. Because of this largely uncoordinated condition, and because eight contracts are due to expire within the next few months, the PIA decided to organize the union employer section. Participation is restricted to firms operating under union contracts.

### LA in Active Ptg. Week

Printing's place in a modern economy was to be stressed to the public by all possible means during and preceding Printing Week, according to plans of Los Angeles graphic arts industry leaders. The week was to be climaxed with a banquet in the Los Angeles Biltmore Ballroom the night of Jan. 17, with John Gerken as the principal speaker.

General chairman for the week's events was G. Henry Henneberg, manager of the Los Angeles PIA, with Gordon Holmquist, of Cole-Holmquist, as program chairman.

Others active in the preparations were Lew Williams of Stationers Corp., and Ray Fisher of the Los Angeles Trade-Technical Junior College.

### Issue Booklet on S. F. Printing

An 8-page booklet showing and describing the variety of equipment available in the San Francisco printing industry was being planned for publication to coincide with the celebration of Printing Week, according to Herman Schunter, chairman of the Printing Week committee. More than 10,000 copies were to be printed, with 4,500 being distributed nationally as an insert to *Bay Area Business*, quarterly magazine.

Remaining copies will be distributed primarily by printing salesmen.

### To Keep Annuals in L.A.

The Los Angeles printing industry has just been assured, after years of controversy, of producing all high school annuals for the City Board of Education. In former years, much of this work has been done outside the state. A Texas firm has produced a large volume of the work.

The board has issued to its secondary schools a new manual entitled, "A Manual of Recommendations for the Production of a School Annual."

### Runs Offset Book

The Los Angeles Times-Mirror Press recently completed the full-color offset volume, "Gallery of Western Paintings," which includes 64 pages of work by famous artists of western life. The book, copyrighted by Hobson & Herr, Arizona publishing house, is published by McGraw-Hill Book Co., New York.

### Introduces Armed Delivery

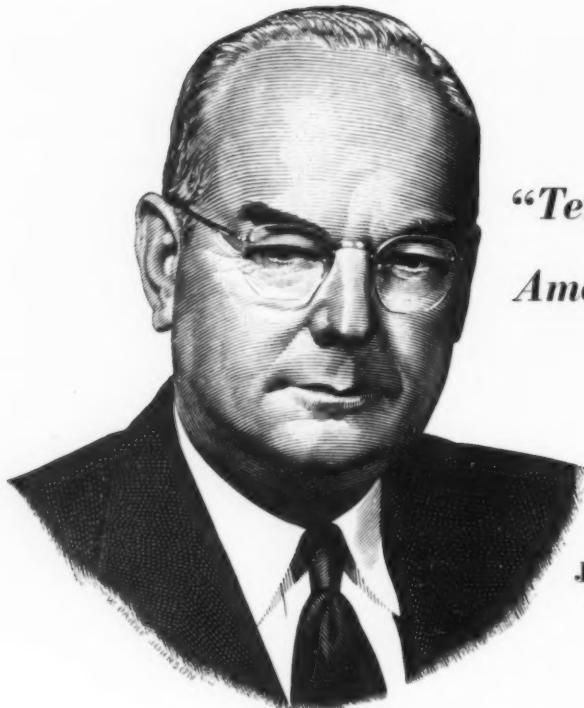
Secret government printing work is now being delivered by Typographic Service Co., Los Angeles in an armed guard truck. One of the firm's panel delivery trucks has been remodeled to accommodate a large steel safe, as well as locked compartments. The truck is manned by a former captain of the Los Angeles County sheriff's office.



### Coast Firm Expands

Tyo Press, Burlingame, Calif., near San Francisco, is completing an expansion program which included the installation of this ATF-Mann 25 x 36½" offset press (above, in rear). It is the first such press to go into the area, it was said. Standing by the new press are (L. to R.): Ed Galan and Earl Hinkel, ATF; Mrs. Marie Jenkins, company

partner; Pete LaRose, pressroom superintendent; and Arnold Helgeson, partner. The company also operates two ATF 17 x 22s (at right); and a Miehle horizontal and a vertical letterpress. The offset department is self-contained. Newspapers and shoppers are published in tabloid sizes by Tyo by offset, and much of this work is expected to be shifted to the new larger press.



*"Ten years ago  
America's Business  
publications . . ."*

**JOHN W. SNYDER**  
Secretary of the Treasury

*"Ten years ago America's business publications, as a voluntary public service, presented for the first time advertisements outlining the Payroll Savings Plan for the regular purchase of U. S. Savings Bonds, and urged its acceptance. During the decade which has passed, American business has consistently supported the Payroll Savings Plan and made it a success. Continuation of this cooperation with the Treasury is most essential in the present emergency. Expanded sales of Defense Bonds will assist importantly in checking inflation, in preserving economic stability, and in furthering the over-all defense effort."*

**In ten brief years:**

- From 700,000 in 1941 employee participation went to 27,000,000 at the peak of the war.
- Companies with Payroll Savings Plans jumped from 10,000 in 1941 to more than 175,000 during the war.
- Since January 1, 1951, the number of men and women on Payroll Savings has grown from 5,000,000 to 6,200,000.
- On September 30, 1951, individuals held Series E Bonds totaling \$34.6 Billion—more than \$4.6 Billion greater than on V-J Day.
- In the January-September, 1951, period, 33,418,000 \$25 E Bonds were purchased—a gain of 17% over the same period of 1950. 8,966,000 \$50 E Bonds were sold in the first nine months of 1951. \$25 and \$50 denominations are the bonds bought by Payroll Savers.

Congratulations to the executives of industry and the publishers of business papers for their continuing effort in promoting systematic savings through the Payroll Savings Plan—the plan that protects America and Americans.

*The U. S. Government does not pay for this advertising. The Treasury Department thanks, for their patriotic donation, the Advertising Council and*

**MODERN LITHOGRAPHY**





#### **Los Angeles Group Elects**

New officers of the Junior Printing Executives, Los Angeles, composed of men under 40 who are employed by, or run graphic arts firms affiliated with the Los Angeles PIA, are shown. Seated, left to right: Charles Wortman, of Colonial Printing & Lithography, new pres-

ident; Carl G. Niemack, Universal Printing & Lithograph Co., retiring president. Standing, left to right: Dick Burge, Burge Engraving Co., secretary; Irl Korsen, Eureka Press, treasurer, and Ace Adams, Ludlow Composition Co., vice president.

#### **Report on L. A. Costs**

Los Angeles printing firms which maintained detailed cost records averaged 9.6 percent profit before taxes last year, as compared with the industry's average of 6.38 percent before taxes. This comparison was made last month by the Los Angeles PIA as it released its quarterly summary. The summary was released with a strong recommendation that more printers install cost systems in the interests of not only learning how they are faring in a period of rising expenses but of finding out how to increase the profit margin.

The offset section of the summary, covering July-August-September, follows in part:

Negative preparation, \$8.75 per hour; year to date, \$8.63; camera, \$9.78; year to date \$9.24; photo composing, \$11.48; year to date \$10.11; vacuum frame, \$10.01; year to date, \$9.46; 10x15 Multilith (i.p.h., 3473) \$6.38; year to date, (3473) \$6.38; 14x20 one color, (3275) \$9.00; year to date, (3109) \$9.31; 17x22 one color, (3244) \$9.77; year to date, (3238) \$9.41; 22x29 one color, (2926) \$12.27; year to date, (2703) \$11.94; 22x34 one color, (3138) \$15.86; year to date, \$15.10, (3701).

The figures include labor, depreciation, rent, utilities, administrative and selling expenses, insurance, taxes, operating supplies, repairs and maintenance, and spoilage with the correct proportion of each cost factor charged to each type of machine or operation. It does not include profit, markup on "buyouts" or interest on investment.

#### **Glendale Firms Expand**

Additions to the plant of Glendale Printers, Glendale, Calif., are underway to provide more space for the pressroom, bindery and office. Art Griffin, proprietor, also announced that a new 28 x 42 Harris is scheduled for delivery Feb. 1.

Modern Engraving Co., same city, has installed a new 22 x 29 whirler, adding to various recent acquisitions which included a Robertson camera.

#### **Tommasini Speaks**

A. R. Tommasini, superintendent of the University of California Press and public relations chairman for the International Association of Printing House Craftsmen, was to be the principal speaker at the Printing Week meetings of both the Victoria, B. C., and Vancouver, B. C. Craftsmen's Clubs.

Mr. Tommasini was to be in Vancouver January 16, and in Victoria the following night. Tentative plans also included meetings of the Boise and Seattle Clubs on other days during Printing Week.

#### **Calif. Firms Add Presses**

Installation of three EBCo. 22 x 34 inch offset presses in Southern California plants has been completed recently by the Wm. M. Kemp Co. of San Francisco, Pacific Coast agents for the Electric Boat Co.'s Printing Machinery Division.

The new press put in by Frye & Smith, Ltd., San Diego, is the second such press purchased by the company. The others were at Gartner Printing & Lithographing Co. and the C. A. Page Publishing Co., both of Los Angeles.

#### **Los Angeles Firm Busy**

Times-Mirror Press, Los Angeles, reports that it is busier now than in 1937, the previous volume peak. Harry Beam, pressroom superintendent, recently returned from a month's tour of graphic arts plants in Chicago, Philadelphia, New York, Elizabeth, N. J., and other cities.

During his tour Mr. Beam was the principal speaker before the Chicago Club of Printing House Craftsmen, his topic being "Paper." The address was followed by a question and answer period.

On the basis of his observations, Mr. Beam concluded that offset lithography is growing steadily in many parts of the country. Considerable progress is being made in inks to speed drying qualities, as well as to develop a vehicle to permit depositing more pigment to give denser and brighter results.

In the latter connection, Mr. Beam reported there is promise of varnishes which will carry sufficient color to the plate to compare to some extent with the silk-screen effect.

#### **L. A. Firm Adds Small Press**

Tivoli Printing Co., Los Angeles, recently added a Michle 29" offset press.

# Heard how P.A.\* cuts costly waste?

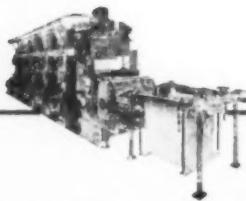
You save time, trouble and expensive web material with the P. A. (Pendulum Action impression) of ATF-Klingrose rotogravure presses. P. A. keeps the web under uniform tension at all times, eliminating wasteful slack. Web tension control is automatic at all press speeds and for all circumference cylinders. An impression is set once for each color and is not touched again regardless of stops and starts. The tension remains constant whether press is printing, idling or standing. P. A. is only one of many exclusive features of ATF-Klingrose rotogravure presses designed to handle every type of rotogravure printing.

The P. A. multicolor rotogravure press shown here is ideal for printing gift wraps, decorative papers, labels, bread, soap and candy wraps, and similar articles. It also prints on cellophane, glassine, foil, kraft, tissue, lightweight board. Investigate the complete line of ATF-Klingrose rotogravure presses and learn how you, too, can profit by their

around-the-clock dependability and economy of operation.

AMERICAN TYPE FOUNDERS, *Klingrose Gravure Division*,  
19 Rector Street, New York 6, New York.

\*Aa exclusive ATF-Klingrose feature



BETTER, MORE PROFITABLE PRINTING FROM THE WIDEST LINE OF PROCESSES

Type faces shown are: *Century Bold*, *Century Schoolbook*

**ATF**

GRAVURE... LETTERPRESS... OFFSET

### Strathmore Elects

At the annual meeting of the Strathmore Paper Co. West Springfield, Mass., December 17, the stockholders re-elected all present officers and directors and elected a new treasurer and a new director.

Paul A. Wilks, with Strathmore since 1929, was elected treasurer, succeeding F. Nelson Bridgman, who has held the posts of both president and treasurer since the death on July 3rd of George E. Williamson, who was chairman of the board and president. Mr. Bridgman continues as president, and Cassius M. Bryan continues as chairman of the board.

Henry D. Johnston was elected to fill the vacancy on the board of directors. The stockholders also re-elected the following directors: Mr. Bryan, Mr. Bridgman, Arthur E. Shattuck, Horace J. Rice, Bradley E. Stafford, Roy F. Arnold, William A. McGillpin, Harry E. Riggs, Laurence W. Shattuck, Nelson Feeley and Harold A. Bolles. The stockholders re-elected George Maxwell as assistant treasurer and Bradley E. Stafford as clerk.

Mr. Bridgman reported to the stockholders that the company had enjoyed its most successful year in sales, both in dollar volume and in tonnage. Since the end of World War II Strathmore has been carrying out an extensive program of plant and operational improvements which have resulted in increased production and efficiency.

### Forbes Appoints Stetson

Forbes Lithograph Mfg. Co., Boston, recently announced the appointment of Brewster Stetson as advertising and sales promotion manager. He formerly was in the company's New England sales department.

### Hammermill Advances Patton

William S. Patton has been promoted to assistant district sales manager of the eastern sales territory of the Hammermill Paper Co., effective January 1. For the past year Mr. Patton had been district sales representative in the same territory. He works out of the mill's New York

### Form Huebner Company

Announcement was made last month of the organization of The Huebner Company, incorporated in Ohio, a wholly-owned subsidiary of The Standard Register Co., Dayton, forms and systems manufacturer and lithographer. The new subsidiary has as its president K. P. Morse, (right) executive vice president and general manager of Standard Register. W. C. Huebner (left) of New York, is vice president, and L. J. Ertel, Dayton, is secretary-treasurer. Board members are M. A. Spayd, president of Standard Register; W. B. Turner, Dayton attorney; George Haight, Chicago patent attorney, and Mr. Morse and Mr. Huebner.

The company was formed for developing and licensing patents originating with Mr. Huebner. Some of these, relating to the graphic arts and allied fields, already have been acquired.

One of the major projects Mr. Huebner has been developing in recent years is "offset printing," utilizing an electrical force for transferring images to paper, without physical contact with printing plates. The same principles



can be applied to certain phases of paper making, coating, and tinting; plastic and textile printing; carbon paper manufacturing, and duplicating processes, the company said.

Mr. Huebner has been associated with the graphic arts since 1894. In the early 1900s he developed the photo-composing machine, one brand of which still bears his name. Since then he has been granted about 200 U. S. patents, and 250 foreign patents covering graphic arts inventions. He is credited with much of the pioneer work in the development of photo-lithography.

City office as assistant to George J. Smart, district sales manager.

### Calendar Trends Changing

Calendar buyers are showing a decreasing interest in "girly" pictures and favoring those with religious and patriotic themes, according to U. Gordon Colson, president, U. O'Colson Co., calendar manufacturers, Paris, Ill. In an interview at Cincinnati, carried by the Associated Press Nov. 27, Mr. Colson declared that this trend is one result of today's unsettled conditions.

### Wild & Stevens Moves

Wild & Stevens, New England graphic arts supply firm, occupied their new building at 45 Industrial Place, Newton Upper Falls, Mass., on December 17. The company has the building on a long-term lease. Wild & Stevens was established in 1859, and manufactures rollers and deals in machinery, equipment and supplies.

Robert B. Arbuckle, president of the firm, said that the new location

will contain the company's modern roller facilities, a full line of printing machinery and supplies, and the company's main executive offices and research laboratories.

To relieve some of the pressure in their Boston plant, the company sought a location near Boston where the production line could be modernized, and where future expansion was possible, it was explained.

### To Survey Screen Process

Screen process printers throughout the country are now being surveyed in an attempt to obtain figures on the number of such plants, number of persons employed, and dollar volume, it was announced last month by the Screen Process Printing Assn., International, 509 W. Randolph St., Chicago 6. Ten thousand questionnaires were to be sent out during January and February, the association said.

### Boston Co. Adds Press

Acme Printing Co., Inc., Boston, recently added a Miehle 29" offset press.

I'LL ONLY TALK TO A SALESMAN FOR

## EAGLE-A PAPERS



JUST SAY

## EAGLE-A

### COUPON

- Bond
- Bond • Onion Skin

### AGAWAM CONTRACT

- Bond

### ACCEPTANCE

- Bond • Record • Index

### TROJAN

- Bond • Onion Skin • Record

### QUALITY

- Bond • Manifold • Cover • Index Ledger • Embossed • Vellum

Typewriter and Boxed Papers

Paper and Paper Boards for engineering, industrial and technical uses.



AMERICAN WRITING PAPER CORPORATION

HOLYOKE, MASSACHUSETTS

### NYU Litho Course Completed

A group of salesmen and inside sales department personnel completed this month the second annual course in Lithographic Sales and Production conducted by New York University. Guest speakers at the final sessions included Paul C. Gehring, advertising production manager of the International Telegraph & Telephone Co., David McKinney of the Lithographic Technical Foundation, and George Cosentino, production manager of the E. T. Howard Co., advertising agency. The instructor for the course was H. C. Latimer of the Lithographers National Association.

Differing from the usual sales course for printing, this course dealt with sale of printing produced by a particular process, and interpreted the advantages of the lithographic process in terms of what they mean to the planners and buyers of printing. The sales manual used was prepared largely from material published by the General Information Service of the Lithographers National Association for educational, sales training and customer relations work.

### NYU Adding Five Courses

New York University will add five courses in its graphic arts section starting February 4. They are: Wood engraving, graphic design workshop, advertising production, poster design workshop, and proofreading. Courses in offset processes and estimating, and other phases of graphic arts also will be given. Information is available from the university, 1 Washington Square, New York 3.

### More Printing Goes by Air

Printed matter ranked eighth in importance among all products carried by air freight by United Air Lines during 1951, the company announced last month. The rankings were made on the basis of weight, and machines and parts ranked first. Advertising display material ranked tenth, two places below general printed matter. In 1950, printed matter was tenth.



### Mounting and Finishing Firm Observes 50th Year

THE Mounting and Finishing Div. of the Chicago Cardboard Co., this year is observing its fiftieth anniversary.

During its half century in business, it has seen the mounting and finishing industry emerge into a modern and highly mechanized operation, incorporating the latest in invention and technique.

In 1902, when the Chicago Mat Board Company, forerunner of the Chicago Cardboard Company, was formed by C. T. Ozmun and George Traver, mounting and finishing was a new field. Point-of-purchase advertising was still in its infancy. Printed sheets were mounted to cardboard entirely by hand with glue applied with a wallpaper brush. The kind of work that could be done was limited, and production was limited.

By the time the company was incorporated under its present name in 1906, Mr. Traver had severed his connections with the company. Many innovations had been made in mounting and finishing. Rollers were developed to spread paste. However, the wallpaper brush was still used

to smooth the sheets. The company would receive the printed sheet from the lithographer and apply the adhesive to it. The cardboard was then placed on the top of this sheet and the four edges were turned back. A plain back sheet was then applied as a liner. Shortly thereafter, rollers were used to smooth out these cards. Band saws replaced manual devices in cutting boards. The company recalls that the tailoring industry was one of the first to use "dealer helps" as they were called at that time.

In 1908, "dealer helps" were in such demand the company moved from its plant on Carroll Avenue to larger quarters at 666 Washington Boulevard. The hand-gluing machines were gradually replaced with new electric ones and, in 1912, the die cutting department began to use high dies, an important forerunner of modern steel rule dies. The next far-reaching development was the installation of a triple-mounting machine, whereby the lithograph, cardboard, and liner were applied simultaneously.

Last fall, the company again

Top: Chicago Cardboard's Executive Staff: (Seated left to right) D. C. Ozmun, president; Martin Degen, vice president; V. A. Ross, vice president; A. C. Kettel, vice president. (Standing left to right) Herman Koerwitz, chief engineer; O. W. Koeber, secretary-treasurer; L. L. Grisamore, vice president; D. B. Ozmun, vice president; and Bard Grindal, assistant secretary.

moved its plant to larger quarters, equipped with the latest machinery. With this equipment installed, they are in a position to handle any offset sheet size. The new plant at 1240 North Homan is said to be one of the largest in the industry. All operations now are highly mechanized.

The greatest improvement in the display industry within recent years according to the company, has been the addition of action, motion, and lighting. Many striking and unusual effects have been obtained by these improvements.

### Plan Outdoor Awards

Details of the 20th national competition and exhibit of outdoor advertising art have been announced by the sponsor, The Art Directors Club of Chicago.

The competition is held annually to select the best outdoor advertising art produced during the previous year. This year's work will be judged in Chicago, February 19 and 20. Closing date for entries is Feb. 16. Information may be obtained from The Art Directors Club of Chicago, 400 N. Michigan Ave., Chicago 11, Ill.

### Krueger Adding to Plant

The W. A. Krueger Co., has begun construction of a one-story addition to its plant at 3830 W. Wisconsin Ave., Milwaukee. The new wing will cost over \$250,000, according to W. A. Krueger, president. It will be of steel and brick construction, 120 x 100 feet. The plant stands on a slope, and the addition, being built in the rear, will be a continuation of the second floor of the plant which meets the ground at that point. A two-story addition was built last year. The new construction, which will make a total of 80,000 square feet in the plant, will permit expansion of the pressroom.

### Chicago Co. Adds Cutter

DeLuxe Check Printers, Inc., Chicago, recently installed a Lawson 39" cutter.



The Fitchburg Family  
of Fine Papers  
for Printing

HILLCOURT  
OFFSET

•

HILLCREST  
OFFSET

•

ZENITH  
OFFSET

•

HILLCOURT  
ENGLISH  
FINISH

•

HILLCOURT  
GREETING CARD

•

FITCHBURG  
CONVERTING  
PAPERS

•

FITCHBURG  
SPECIALTY  
PAPERS

**Fitchburg Paper Company**

FOUNDED IN 1861

MILLS AND MAIN OFFICE: FITCHBURG, MASS. N. Y. OFFICE: 250 PARK AVE., N. Y. 17

## A New Year Begins

Beginning a New Year, Hillcourt Offset continues to be a clean, bright sheet and always a dependably good performer. Stocks of Hillcourt in 60 lb. weight are available at the mill for overnight shipment to most points. Contact either the mill or our New York office, 250 Park Ave., for complete information and to order.

# HILLCOURT OFFSET

## **Edward Stern & Co. Observes 80th Anniversary Year**

THE year just ended marked the completion by Edward Stern & Co., Philadelphia, of its "demonstration year." The year was featured by an intensified promotion and selling program, and marked the 80th anniversary of the company's founding in 1871.

Mr. Edward Stern started a small shop at 102 N. Fifth St., with a Gordon press. His brother Harry F. assisted in the shop. Another brother, Simon, joined the company and the name was changed to Edward Stern & Co. Records show that quality printing produced by fine craftsmanship was the new company's guiding principle, and today lithography and printing by the firm still follow the quality line.

The small shop moved to larger quarters at 11 N. Sixth St., and another move took it to Seventh and Cherry in 1875. By the 1880's the company was operating a job composing room, book composing room, and 14 job and cylinder presses.

Maurice Weyl, a nephew of Edward Stern joined the firm in 1889 and 10 years later his brother, Julius, became an employee. The record of the company personnel to the present time shows that the founder died in 1923, and his nephews, Maurice and Julius Weyl carried on the business. Julius died in 1935 and Maurice the following year. Maurice Weyl's son, Charles, then became president, a post he held until 1948 when he became chairman of the board. Maurice Segal succeeded him in the presidency, and now holds that office.

The company continued to be enlarged through the years. Further expansions, and moves included the purchase of the Globe Printing Co. in 1894.

It was in the 1890's that the firm became one of the pioneers in color printing. "The Booklover's Library" was probably the first three-color printing job of importance done by the company. It was a monthly magazine which featured reproductions of paintings and drawings.

The company moved in 1908 to its present location at Sixth and Cherry Streets. At that time three floors were occupied. The engraving department, under the name of Rembrandt Engraving Co., was carried on in another location on Vine Street. This department was discontinued in 1924. Also in 1908 a Paris office was opened, which had to be discontinued during World War I.

The company was licensed to use the Aquatone Process in 1923. Six other firms, licensed at the same time, later gave up the process, but the Stern company carried on with it. By 1929 the work being done by the process was so widely accepted that another floor was added to handle the production. This made a total of six floors occupied by that time, a total of 60,000 square feet.

By 1939 the original process had been altered to such an extent that a new name, Optak, was given to the Stern color process. This is the company's top quality process today. Besides this specialized process, which utilizes offset presses, the company today also is producing work in deep etch lithography, regular offset, and letterpress. Sales representation is maintained in Boston, New York, Baltimore, Washington and Cleveland.

### **Ink Institute Board Honored**

Original members of the board of directors of the National Printing Ink Research Institute were feted at a banquet held December 5 at the Saucon Valley Country Club. Present were Board members, the Technical Committee of NPIRI and staff members of the Institute who were holding a joint two-day meeting at Lehigh University, Bethlehem, Pa. Pictures of the first board were presented to the following members of that group: H. Howard Flint of Howard Flint Ink Co., Detroit; Engelbert Smith of Crescent Ink and Color Co., Philadelphia; G. Stuart Braznell of Braznell Co., St. Louis; and Martin Driscoll of Martin Dris-

coll and Co., Chicago. A plaque was presented to Anthony J. Math of Sinclair and Valentine Co., president of the first board.

### **Eastern Firms Add Cutter**

Lawson cutters recently were installed in the following plants in the East: The Todd Co., Rochester, N. Y.; Edward Stern & Co., Philadelphia; and Herst Lithographing Co., New York. All were 52" models.

### **Philadelphia Co. Adds Press**

The Sherman-Oddo Co., Philadelphia, founded 20 years ago by Harold Sherman and Samuel Oddo, is expanding its offset department and has added a 17 x 22 Webendorfer.

### **Opens Bindery in Phila.**

Samuel J. Passo, formerly of Marcus & Co., Philadelphia lithographing firm, recently opened the Drexel Bindery, 149 N. 12th St., that city.

### **Gen. W. B. Smith Speaks**

Gen. Walter Bedell Smith, former U. S. chief of staff and ambassador to Russia, was to speak at the Printing Week dinner January 17 at the Biltmore Hotel, New York, according to an announcement by the New York Employing Printers Assn., sponsor. This was to be the highlight of New York's Printing Week observances.

### **Seek Improved Safety Methods**

Organization of a project to make the use of printing and binding machines as safe as possible has just been approved by the American Standards Association. Development of a safety code for signaling devices and controls for graphic arts equipment was recommended at a recent conference of manufacturers, purchasers, and employees using this equipment. The Research and Engineering Council of the Graphic Arts Industry has been invited to act as sponsors for the project.

Twenty-six organizations have been invited to participate in this work. The ASA is located at 70 East 45 St., New York 17, N. Y.



ONE OF A BATTERY OF SEYBOLD MODEL 4VA CONTINUOUS TRIMMERS AT CROWELL-COLIER, SPRINGFIELD, OHIO • COLOR PHOTOGRAPH BY CORNELIUS

**fine graphic arts equipment . . . for everybody's profit**



## **for the man at the feeder... profit**

The operator simply places piles of books in the conveyor trough of a Seybold continuous trimmer—from then on, it feeds, clamps, cuts and delivers the fully trimmed books with mechanical precision. Seybold has made this job safer than ever—just one of the ways in which the operator profits.

## **for the bindery superintendent... profit**

With nothing complicated to get out of order, maintenance on a Seybold trimmer is minimized. Easy adjustments permit quick changes from one size book to another. Rugged construction and simplicity of action step up the cutting tempo, and the bindery manager profits from a steady flow of finished work at high speed.

## **for the publisher... profit**

Like all Harris-Seybold equipment, the continuous trimmer is designed and built for the fast production pace in today's printing and publishing plants. It delivers in volume and on schedule—trims costs as neatly as it trims books. It's the kind of equipment that shows more profit for the owner.

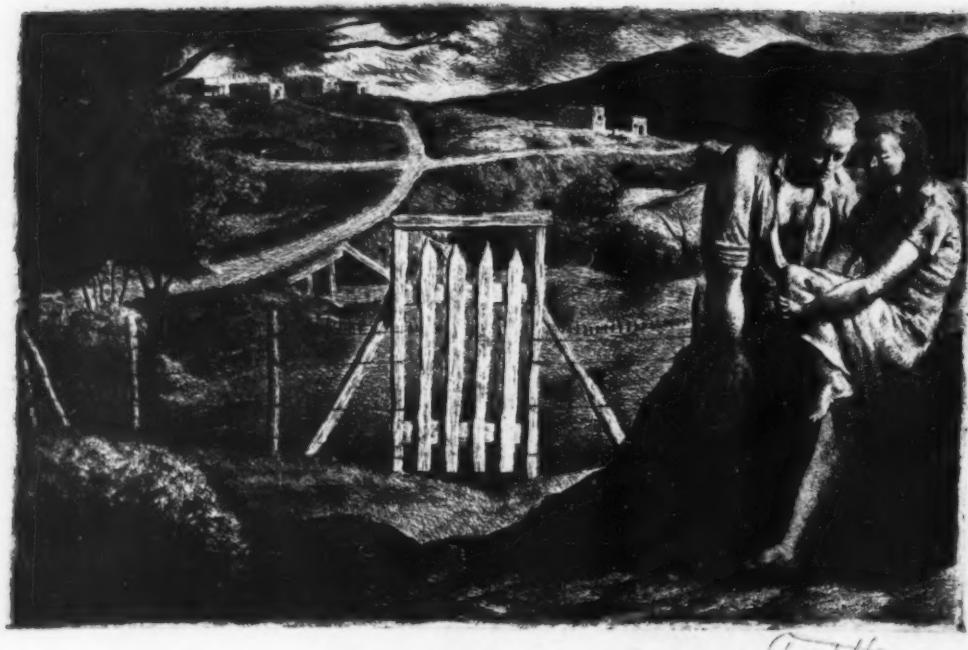
## **for the man-in-the-street... profit**

He may not know a continuous trimmer from a pair of scissors, but every consumer has seen a printed piece, a book, or a magazine that came from Harris-Seybold equipment. And the consumer profits from the information and ideas brought to him by the graphic arts.

\* \* \*

Commercial printing profits everyone, and we're proud to be suppliers to the industry: continuous book trimmers, power cutters, paper drills, rotary lithographic presses, rotary letterpresses, litho-chemicals, and other fine graphic arts equipment. Service centers in all principal cities.  
Harris-Seybold Company, 4510 East 71st Street, Cleveland 5, Ohio.

# HARRIS-SEYBOLD



Federico Castellon

TAOS TRYST

Born in Spain in 1914, Federico Castellon came to this country at the age of nine. He has made an enviable reputation with his lithographs and etchings.

## Halfmoon Vellum



A soft vellum finish and a satin-smooth texture distinguish this fine paper. Brilliant white and six delicate shades of color add a touch of distinction and quiet good taste to your better advertising pieces.

## Mohawk Paper Mills

### Supply Guild Holds Dinner

The Printers Supplymen's Guild of Chicago staged another annual "Beefsteak Dinner" at the Furniture Club Dec. 7, with 600 persons, the limit of the dining room's capacity, participating. No knives, forks or spoons were provided at the tables but guests were given long aprons for such assistance as these might offer. Door prizes were won by ticket holders and the grand prize was \$400 worth of clothing, displayed on a tailor's dummy. Herbert Gaetjens, of Gaetjens, Berger & Wirth, ink manufacturers, president of the Guild, presided.

### Replaces With New Presses

Edward Keogh Printing Co., Chicago, will install a new Harris 35 x 45 inch, single color offset press in February, a company spokesman announced last month. A similar Harris press was installed last May. Both are replacements for others which, he said, "simply wear out because of the steady, continuous grind on tariff printing in which we specialize." Altogether, he added, the company has six offset presses for this work.

### Mack Leaves R & P

Norman A. Mack, technical specialist in the lithographic industry, resigned Dec. 1, his position on the sales promotion staff of Roberts & Porter, Inc., Chicago litho supply house, and, after a brief vacation, was planning to put into effect a program centered on research and development work, which he has had under consideration for some time. He promised a full announcement of his future plans later.

### Mrs. Riddell Injured

Mrs. Elsa Riddell, manager for 25 years of the employment service of the Lithographers National Association at its Chicago office, was hospitalized early last month after being struck by a car in suburban Elmhurst, where she lives. At the Elmhurst Hospital, Gordon Hall, western manager for L. N. A., reports,

she is making steady improvement, but it may be another month or two before she is released to her home.

### Ideal Honors Employees

Ideal Roller Mfg. Co., Chicago, held its annual employees' Christmas dinner-dance at the Keyman's Club, Dec. 14 with initiation of two new members into its Twenty Year Service Club as a feature of the evening's program. Gold watches were presented to Alex Stewart and Miss Blanche Cerny and pins marking 30 years of service were also presented

to L. C. Bollinger, company controller, Walt Kaste and Frank Rimkus. H. Norris Love, president of Ideal, and E. B. Davis, vice president, had charge of the ceremonies, attended by about 125 employees. At Ideal's Long Island City, N. Y., branch plant, watches were presented to two other 20-year employees, August Witt and Gaetano Florentino and a 30-year pin was given to Anthony Esposito. These latest additions, the company announced, brings to 48 the total number of employees who have been with Ideal Roller 20 years.



Brother, it isn't luck but SCIENCE that makes the new, improved VULCAN OFFSET BLANKETS work like a charm.

They're precisely uniform in thickness, with a velvet-like surface of greater density, free from pin-holes, tough and abrasion resistant. They take the ink like a duck takes to water... give you quick make-ready without waste of time, ink or paper. No stretch, embossing or debossing. Just the right degree of resiliency — and they wash up with a quick once-over.

For proud-as-Punch faithful reproduction of every gradation in the copy, with less work for the pressman, try these new blankets and get rid of "blankety-blank" troubles. Order red or black, all sizes.

**VULCAN → RUBBER**  
PRODUCTS, INC.

58th Street and First Avenue • Brooklyn 20, N. Y.

Pacific Coast Representative: The California Ink Co., Inc. Canadian Representative: Sears Limited, Toronto

*the First Choice*  
for the commercial printing plant and bindery

## ROSBACK saddle gang stitcher



- Cuts Costs
- Does a Better Job
- Automatically Stitches up to 9000 Signatures an hour (2 stitches, 2 up)

● Up — Up — Up go time and labor costs—so down—down—down must go time-and-labor-wasting operations. The Rosback Saddle Gang Stitcher does exactly that.

This stitcher eliminates entirely the hand-collating of signatures—collating and stitching are combined into a single operation. Labor costs are cut at least 50% as compared to hand stitching.

The stitching operation is completely automatic. Operators simply feed the signatures onto the saddle and the machine does both the collating and stitching in one smooth, steady, fast-moving, automatic operation. The stitching is spaced accurately and uniformly—auto-

matically staggered so stitches do not pile up to break out under pressure of cutter clamp when thin books are trimmed. You not only save money with a Rosback, but you also keep your stitching on schedule.

### TWO MODELS

Rosback Saddle Gang Stitchers are made in two models: Model No. 204 places any number of wire stitches from 1 to 4 inclusive, and No. 210 any number from 1 to 10 inclusive, in each book or booklet, or in each gang when job is printed two-or-more-up.

Because it is easy to set, the Rosback Saddle Gang Stitcher shows nearly a big a time saving per thousand on runs of 1,000 or 2,000 as on 25,000 and up.

Your Rosback Dealer will be glad to help you select the Rosback Saddle Gang Stitcher that will best serve your needs. Or, write us for descriptive bulletin that gives all the unusual advantages of the Rosback Saddle Gang Stitcher.

**F. P. ROSBACK COMPANY • Benton Harbor, Mich.**

WORLD'S LARGEST MANUFACTURERS OF PERFORATORS,  
GANG STITCHERS AND PAPER PUNCHING MACHINES

### Wages Up in Canada

A new collective agreement for 1952 between the Amalgamated Lithographers of America and the Canadian Lithographers' Association recently was announced. It provides a wage increase of 10.82 percent, to about two-thirds of the lithographers. In addition to the general wage increase is an escalator clause on the basis of one cent per hour per point increase on the Dominion Bureau of Statistics' cost of living figures.

The contract covers locals in Montreal, Ottawa, Toronto, Hamilton and London, and affects members in 40 lithographic plants from Windsor to Halifax.

The contract stipulates that if a statutory holiday falls on Saturday or Sunday, another day's holiday, with pay, will be given within the calendar year.

An improved welfare plan provides protection for members and their dependents against the loss of time through sickness.

The new wage rates were to be effective in the first complete pay roll period after Dec. 10.

Negotiations are in progress for similar contracts to cover the remaining one-third of the membership employed in independent plants and not covered by their employers' contracts.

### Continues in Ontario Post

Ray Lawson, chairman of Lawson and Jones, Ltd., lithographers, London, Ontario, has agreed to continue for an indefinite period as lieutenant-governor of the Province of Ontario. Mr. Lawson's regular five-year term, as lieutenant-governor expired December 26.

### R-C-S Honors Employees

A quarter century club was formed among employees of the Rolph, Clark, Stone Co., Ltd., Toronto, Ont., lithographers, recently when 90 persons were presented with membership pins and silver trays.

Service of the employees in the group ranged from 25 to 68 years. One of the 800 employees in the Toronto plant of the company, J. D. Kelly, has been with the firm for all

but 34 of its 102 years. Presentations were made by F. G. Rolph, president; C. T. Clark and G. H. Houston, vice-presidents.

#### Montreal Co. Gets Four-Color

Montreal Lithographing Co., Montreal, during December was installing a Harris four-color 42 x 58" offset press. This was reported as the first four-color offset press in the province of Quebec.

#### Planning for PIA Convention

Fifteen convention committees of the Associated Printers and Lithographers of St. Louis are now at work planning for the annual convention of the Printing Industry of America, to be held in St. Louis, October 12-18. The convention will be held in the Chase and Park Plaza Hotels, situated at the entrance of 1,380 acre Forest Park. While the formal program is being worked out by PIA, the St. Louis organization is making extensive plans to provide facilities for the reception and entertainment of visitors. It has been 31 years since the PIA or its predecessor association (UTA) has convened in St. Louis.

Clyde K. Murphy, vice president of Blackwell Wielandy Co. is chairman of the convention committee, and Don O. Pyke, Graham Paper Co., is co-chairman. With Fred E. Winsor, executive vice president of the St. Louis association, they are meeting this month in St. Louis with James Brackett of PIA and some of his staff from Washington.

#### Craftsmen Laying Plans

Plans are being made by a committee in St. Louis for the annual convention there next August of the International Assn. of Printing House Craftsmen. The St. Louis committee, headed by G. Stuart Braznell, recently met with international president J. Homer Winkler, third vice president Tom Mahoney, Pearl E. Oldt, executive secretary, and G. Elmer Leach, international representative. Also present were representatives of the eighth district.

The mid-winter board meeting of

the international association is planned for February 16-17 at the Sheraton Gibson Hotel, Cincinnati.

#### Western Supply Expanding

Just a year after moving into their new modern plant at 1927 S. Third St., St. Louis, Ed Fickenwirth of Western Litho Plate and Supply Co., says it is necessary to expand the size of the plant again. Over a 25 year period the Western Litho Plate & Supply Co., has gradually expand-

ed until it reached today's capacity of more than a half million dollar business operating nine graining units at the St. Louis plant and six at Atlanta, Ga., including equipment to service plates up to 54 x 72". The plant is built on one floor of 10,000 square feet.

#### St. Louis Company Adds Press

A Miehle 29" offset press recently was installed in the plant of Simons-Sisler Co., St. Louis.



Good, easy, predictable performance! You can achieve it in your job as a printer or lithographer, and keep customers coming back for more of your work . . . because they like what they see!

Ink isn't everything, it's true . . . but the *right* ink does bring full realization to careful make-ready and good printing methods. It enhances the best work and improves any job!

The right ink for you is the one that performs better . . . for you. Try TRIANGLE for perfect color matching, perfect and uniform pigmentation, sharp, clear color, economical spread and working consistency . . . and for some pleasant printing!

— • —



### **Chicago Firm Expands**

Kupfer Printing Co., Chicago, has recently added three new offset presses, a Harris, 17 x 22, and two AFT-Webendorfer 22 x 28s, bringing to six its battery of presses. The company was founded 35 years ago and put in its first offset equipment about 10 years ago, according to Al Fisher, general manager. Energetic sales promotion during 1951 has produced so many new accounts, he said, that the doubling of offset facilities became imperative. Already all

presses are being fully and continuously utilized, he stated.

### **Lawter Advances Heath**

Jack C. Heath, sales promotion manager, has been promoted to general sales manager of Lawter Chemicals, Inc., Chicago, according to Daniel J. Terra, company president. Lawter products include printing ink vehicles and resins, fluorescent pigments and fluorescent paints.

### **Von Hoffmann Heads Asso.**



George Von Hoffmann, elected president of the St. Louis Assn. also served as its president in 1949.

George Von Hoffmann, Von Hoffmann Press, St. Louis, last month was elected president of the Associated Printers & Lithographers of St. Louis. Vice president is H. J. Echels, secretary is Leo W. Painter, and treasurer is George B. Gannett. Fred E. Winsor is executive vice president of the association.

Directors, recently elected to three year terms by mail ballots, are Mr. Gannett; Ci Bruce, Burgess Printing; L. B. Brown, A. R. Fleming Printing Co.; Clyde Hilton, Hilton Printing Co.; Ray Kutterer, Kutterer-Jansen Printing Co.; and Clarence Spaeth, Compton & Sons.

### **Abandons Letterpress**

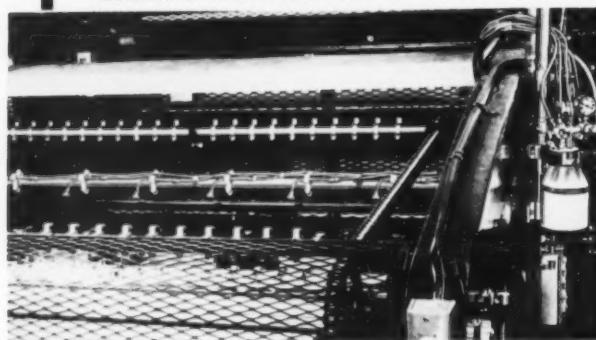
Byron Press, Chicago, has disposed of all letterpress equipment with which it operated for 16 years and, since last July, has been conducted as an offset shop with one Harris 17 x 22" press. The break with his past, said E. O. Kirkland, proprietor, was made deliberately after careful weighing of cost factors. Customers were demanding color work but costs of color plates for letterpress were becoming prohibitive, he said. One offset press, he decided, would not support his own operation of camera and platemaking facilities, but by abandoning letterpress and substituting trade shop service for offset platemaking and for typesetting, he now concentrates on press work as his one operation.

## **Lower Your Operating Costs Increase Your Production**

**WITH**

# **H & H DRYSPRAY**

**positively stops offsetting, sticking & smudging  
Leaves a Mirror-Smooth Finish on All Work**



Installation on Harris Four-Color

### **6 reasons why H&H DRYSPRAY ... is most effective**

- Can be operated *continuously or intermittently* with from 2 to 12 lbs. of air
- Three, six or nine directional, adjustable nozzles give FULL or PARTIAL sheet coverage
- Eliminates foggy and sticky pressrooms
- Air Cleaner and Condenser standard equipment
- No moving parts to wear out. No hard, dried gum to clean
- Economical — 1 lb. of abrasive-free powder equals 1 gal. liquid spray

**EQUALLY EFFECTIVE ON OFFSET, LETTERPRESS and ROTARYS**

**WRITE FOR ILLUSTRATED FOLDER, SAMPLES**

**Mention size, and make of presses**

**H & H PRODUCTS**

1930 S. State St. • Chicago 16, Ill.



### New Plant in Dallas

Padgett Printing & Lithographing Co., Dallas, Texas, has recently moved to new and expanded quarters (above) at 5912 Harry Hines Boulevard. The white brick plant with an entrance of

Cordova Shell limestone provides space of 30,000 feet and is located on a three and a half acre lot, according to Hal and J. D. Padgett, owners.

The new building includes every facility for faster, more efficient work.

The west wing of the plant is devoted to offset and the east wing to letterpress, with both feeding into a common bindery section in the center. Ceiling cooling units are included in the equipment.

Latest addition to the Padgett battery of presses is a 22 x 34 two-color Harris offset press. It supplements four 25 x 38 and a 32 x 44 Miehle cylinders, a 22 x 34 Kelly, three vertical Miehles, and two Webendorfer offset presses. The new press gives Padgett one of the finest layouts in the Dallas area, the company reports.

Landscaping of the grounds around the plant will include a grass lawn with large shade trees. Current plans call for the establishment of a recreation area and playground for Padgett employees.

A pioneer Dallas business institution, Padgett's was founded in 1903 by the father of the present owners. Today, the company employs approximately 60 persons.

### NPA Clarifies Outdoor Status

The National Production Authority has issued an interpretation stating that outdoor advertising displays and billboards are Class "B" products and that companies engaged in this line of business must come under the Controlled Materials Plan, according to a bulletin of the Printing Industry of America. Such companies, before obtaining steel, copper and aluminum must apply on CMP 4-B applications for an allotment. Applications should be submitted to the Printing and Publishing Division of the National Production Authority.

A company is not required to file CMP 4-B applications and may use the small user self-authorization procedure set forth in Direction I to CMP Regulation 1 if they do not use more than 5 tons of carbon steel in the first quarter of 1952 and 30 tons in the second quarter; 500 pounds of copper in the first quarter of 1952 and 3,000 pounds in the second quarter; 500 pounds of aluminum in the first quarter and 2,000 pounds in the second quarter.

### Adds Small Press

Lakeland Color Press, Brainerd, Minn., recently installed a Miehle 29" offset press.

### N. Y. Company Adds Two-Color

Academy Photo Offset, Inc., New York, recently added a Harris 22 x 34" two-color offset press to its facilities.

**HERRISET** INK GIVES YOU...

**freedom from  
greasing and  
scumming**

#### PLUS—

##### *These 3 Additional Advantages*

###### **FREE FLOWING • FAST SETTING • HIGH DENSITY**

An ink that eliminates the necessity of constantly wiping down plates is in itself of great importance. But when you add three more time-saving, work-improving features, you have the production and sales find of the year — you have Herriset Offset Ink and a finished job that makes a satisfied customer.

Take advantage of this opportunity to prove Herriset's advantages to yourself.

© 6211



## William C. Herrick Ink Co., Inc.

Main Office & Plant

EAST RUTHERFORD • NEW JERSEY

Send in  
this coupon  
now—  
for better  
printing  
jobs  
tomorrow

#### Please send me

- A trial order of \_\_\_\_\_ lbs. of Herriset Ink at the standard price.
- Further information on Herriset Ink.

Name \_\_\_\_\_

Company \_\_\_\_\_

Address \_\_\_\_\_

### Gibson Adds Cutter

Gibson Art Company, Cincinnati, recently added a Lawson 52" cutter to its facilities.

### Cincinnati Supply Men Meet

An informative discussion of credits, led by Emery A. Paulson of Dun and Bradstreet, Inc., featured a dinner meeting of the Printers Supplymen's Guild of Cincinnati on Dec. 3 in Hotel Sinton in that city. The discussion followed the showing of

D & B film, "Man's Confidence in Man." At a luncheon meeting on Jan. 7, the members were scheduled to participate in a round table discussion of current problems in the printing industry.

### Offset Book Depicts Steamboats

An offset book which portrays the old days of steamboating on the Ohio and Mississippi rivers, is the new 84-page "Cap'n Hughes' Steamboat Sketchbook" (\$2.00) just issued by

the Picture Marine Publishing Co., a subsidiary of Young and Klein, Inc., Cincinnati lithographing firm.

It is the third book to be produced by offset in the Young and Klein plant.

Printed on 80-pound crash finish paper, the 80 pages of text, 8½ x 11" in size, are plastic bound. Famous river boats pictured on the outside covers and another inside are full-color reproductions of oil paintings, while the other 35 pictures of river boats and scenes are reproductions of pencil sketches.

Some of these sketches, according to Benjamin F. Klein, president of both the publishing and litho firm, were yellowed and worn, making reproduction particularly difficult.

### Brett to Promote Services

During 1952, its 108th year in business, the Brett Lithographing Company, Long Island City, N. Y., will issue a series of folders depicting their various services in color lithography, equipment, personnel and clients served during its long business history.

### Milwaukee Exhibit Opens

An exhibition of graphic arts and advertising material produced by members of the Graphic Arts and Advertising Guild of Milwaukee was scheduled to open in that city January 14 and remain open to the public through February 12. Sponsored by the Guild, the display was being prepared for showing in the Milwaukee Public Library.

### Colo. Co. Moves Large Building

Pikes Peak Lithographing Co., and Noble Card Co. are now located in a former air force personnel building which was moved in sections to a new site at 3525 N. Cascade Ave., Colorado Springs, Colo. The single-story frame building, which provides about 7,600 square feet of space, was cut into seven sections and moved from Peterson Field several months ago. The company produces western scenic cards and also "Colorado Wonderland" magazine.



Protect your presswork against damage. GLAZCOTE provides the easy, low-cost way. Merely add it to your regular inks, according to simple directions. GLAZCOTE, a protective ink conditioner, provides a tough, glossy scratchproof finish that resists abrasion. You can insure customer satisfaction with this job-tested, economical protection. A little goes a long way. GLAZCOTE is the practical answer to one of printing's most troublesome problems.

#### INK TROUBLES VANISH

when you keep your regular inks at printing peak with Central's famous ink conditioners — they make all inks better in printing qualities.

"33" for Letterpress

"0-33" (Litho and Multilith)

"600" for Light-bodied inks

#### Makes Good Ink Better

Write today for a free copy of "TO THE PRESSMAN"

#### 100% Guarantee

8 LB. TRIAL ORDER — If GLAZCOTE does not satisfy you completely, you may return the unused portion at our expense.



**Central COMPOUNDING COMPANY**  
1718 North Damen Avenue Chicago 47, Illinois  
IN CANADA—IT'S CANADIAN FINE COLOR CO., LTD., TORONTO  
Export Division Guterman Co. Inc., 35 South William Street, New York 8, New York

## 125 at Research Council Meeting; Strengthen Finances

THE annual meeting of the Research and Engineering Council of the Graphic Arts Industry, held at the Westchester Country Club, Rye, N. Y. December 9 through 11, was marked by a record attendance of 125. Featured at this meeting were eighteen research progress reports by representatives of organizations and companies engaged in graphic arts research and development.

The meeting was combined with visits to Condé Nast periodical printing plant in Greenwich, Conn., and to the Time Laboratories in Springdale, Conn. In previous years, visits have been made to Battelle Memorial Institute, Dow Chemical Co., Eastman Kodak Co., Rochester Institute of Technology, Institute of Paper Chemistry and the Kimberly-Clark Co.

The reports presented at the meeting covered progress on approximately 120 separate research projects representing practically every phase of the graphic arts. These reports, accompanied by charts and distribution of printed material, indicated that technological progress for the graphic arts industry is moving forward at a faster pace than ever before in the history of the industry, the council reports. Projects included dry offset plates, an improved inserter, handling of dry offset spray, a newly developed rotary gatherer, onset printing, Justowriter developments, and progress on the Higgonet-Moyroud phototypesetting machine.

The executive committee of the council at this meeting evolved a plan for a more permanent financial structure to carry on the work of the council. Under the new plan, company members will pay minimum dues of \$100 a year, on a three year basis. National and local graphic arts associates will be invited to become members of the council without paying dues. They will be urged, however, to contribute to the council,

but will not be required to do so. Individuals also will be invited to join without paying dues, but will be urged to make contributions. As of December 15, a nucleus of 28 company members had already agreed to continue their memberships under the new \$100-a-year dues plan. A campaign is now under way to urge

other companies to "rejoin" as dues paying members.

All new members accepted under the new plan will receive one copy of all council publications issued after the date of their membership. Additional copies of council publications or copies of publications previously issued will be available for purchase.

The council also soon will announce a new plan for the sale and distribution of the 24 publications

## THE FILM STORY

*in a nutshell—*



From one source you can get all of your film requirements. BESCO branches handle Ansco, Du Pont, Eastman-Kodak, and Gevaert film—in sheets or rolls. You can get glass plates too! In fact BESCO can supply you with most of your photographic needs. Not only film but developing and fixing solutions. Fast delivery is assured when you order from BESCO.



### BRIDGEPORT ENGRAVERS SUPPLY CO.

BRIDGEPORT 2, CONNECTICUT

NEW YORK: 525 W. 33 Street • CHICAGO: 900 N. Franklin Street  
BOSTON: 453 Atlantic Avenue • CLEVELAND: 1051 Power Avenue  
LOS ANGELES: 330 Winston St. • SAN FRANCISCO: 927 Howard St.  
JACKSONVILLE BEACH: 111 2nd Ave. N.

it has issued to date. Until now these publications have been distributed as inserts to Volume I or Volume II of the council's Research & Operations Manual. Under the new plan, the publications will be regrouped under general subjects.

The council which has the active support of Lithographic Technical Foundation, Printing Industry of America, and the Book Manufacturer's Institute was formed three years ago for the purpose of stimulating, aiding and encouraging groups and companies to undertake research and to coordinate their efforts in solving the industry's problems. The council does not engage in research activities itself. The

council is a central source for compiling and publishing progress reports on the many active research programs in the industry. The results of this work of the council are elimination of duplication of effort and expenditure of money, it says.

## 62 Years With ATF



American Type Founders on Dec. 27 presented a \$2000 check and a commemorative plaque to its oldest employee, Ben Woermann (right) of the Cincinnati Branch. The presentation was made by ATF president Edward G. Williams at the company's general office in Elizabeth, N. J., and was followed by a luncheon in celebration of the anniversary of Woermann's employment on January 1, 1890.

Woermann started to work for the 217-year old company at the age of 17, in the type foundry of Allison and Smith, Cincinnati. This was one of the twenty-five foundries merged under the present corporate title in 1894.

At 78, Mr. Woermann is a widower; lives with two daughters at 700 Rosemont Avenue, Cincinnati. According to Louis A. Croplis, Cincinnati branch manager, he is as vigorous and active as any of the younger men in the organization.

Several years ago the Cincinnati Club of Printing House Craftsmen conferred upon him an honorary active membership, although suppliers' representatives are usually limited to associate membership.

The occasion was to be marked in the Cincinnati Branch offices in January, and on January 10 the Craftsmen's Club was to present Mr. Woermann with a bound volume of more than a hundred congratulatory letters received from his customers.

## Inland Adds Two Presses

Inland Press, Inc., Chicago, erected two new offset presses, a Miehle 76-inch, two-color, and a Harris one-color, 35 x 45 inch, in its plant at 600 W. Van Buren St., shortly before Christmas. Platemaking facilities for handling work for the large Miehle also were added, Carl E. Dunnagan, president, said. Recently the company leased 15,000 additional feet of space in the building and now has a total of 115,000 sq. ft. on four floors.

## Announcing... NEW DEVELOPMENT in BLACK and COLOR INKS for Web-Fed Offset Presses



Designed and Perfected for Web-fed offset presses exclusively, the new WEB black and color offset inks have met with unanimous acclaim for their unexcelled press performance.

R. A. Kerley Ink Engineers have applied their many years of experience and skill enabling you to profit from this new development in Web-Offset Inks in both black and white and color.

### NO SMUDGE NO SMEAR NO GREASING NO SCUMMING

Web offset inks contain all of these vital features needed in a good ink plus fast setting qualities—dry on most papers within a few hours—yet these inks will not dry on the press overnight.

The Web black and color offset inks have been used in conjunction with Webendarer web-fed offset presses (as pictured in this advertisement), and have been very highly successful as our many satisfied customers can verify.



**ALSO** For regular sheet-fed offset presses try our quality "Superb" line of offset inks.

Write for full particulars

**R. A. KERLEY INK ENGINEERS INC.**  
1250 WEST VAN BUREN ST., CHICAGO 7, ILLINOIS



## the Advertising Manager

*...a partner in productive advertising*

Classically, this study in frown is either the most dexterous ringmaster in the business world or its ablest second-guesser. But behind that frown lies a battleground where conflicting loyalties temper every decision. The sales force wants the ad budget to wine the prospects; the V.P. for Sales wants to show all the products; the President calls for a "a backdrop of integrity" with reprints to his luncheon club, and the Treasurer wonders "what does the

agency do?" Kudos to the A.M. with an uncanny ability to satisfy everybody, including—occasionally—himself!

Faced with considerations of budget, appearance, utility (to name a few) in the selection of paper, today's advertising managers continue to specify literally thousands of tons of MAXWELL OFFSET yearly.

Whether you're an advertising manager, an agency man or a printer, you'll find

This series of salutes to "Partners in Productive Advertising" is illustrated by distinguished faculty members of The Famous Artists' Course, Inc., Westport, Connecticut. The advertising manager is a study by Austin Briggs.

MAXWELL OFFSET does a better job of representing you, reaching more of the proper desk-tops, catching more and more consumers' fancies—always the measure of a well spent dollar.

It's just that MAXWELL OFFSET helps printers put the message in the best possible light. MAXWELL's absolute uniformity in strength, finish, whiteness or color are your best assurance of "printed power" for increased sales.

# Maxwell Offset

Howard Paper Mills, Inc. / MAXWELL PAPER COMPANY DIVISION / Franklin, Ohio



## "Mr. Phillips, Take a Letter to Our Printer"

IF YOU WERE to trade places with your secretary for just a day you'd learn firsthand the importance paper plays in making her work effective.

You would learn that a superior letterhead paper—HOWARD BOND, to be specific—pays for itself in appearance, in exceptional printability, and in the ease with which

it handles, erases, resists soilage.

If you also typed business forms you would see how form sets printed on different HOWARD colors expedite paper work—speeding identification, minimizing error, simplifying handling and filing.

And then if the "boss" asked you to take a letter you might hear dic-

tation like this, "Take a letter to our printer asking him to stop by with a HOWARD BOND sample book so we may see those lovely HOWARD colors and that sparkling *whitest* white. Get it off today, Mr. Phillips."

PRINTERS! This message appears in advertising magazines read by your customers.

HOWARD PAPER MILLS, INC.

• HOWARD PAPER COMPANY DIVISION, URBANA, OHIO

# Howard Bond

*"The Nation's Business Paper"*

Companion Lines: Howard Ledger • Howard Mimeograph



Howard Writing • Howard Posting Ledger



#### Minn. Firm Shows Growth

A redwood facade on a cement block building provides a modernistic appearance for the recently completed plant of Associated Lithographers, at 6610 W. Lake St., Minneapolis. The new plant is the result of the rapid growth of the company which began in the basement of Don Malone, one of the partners. Mr. Malone, with nine years of experience in offset, formed the business with Ken and Warren Wolfe, brothers. The new plant was built by the men except for the excavation, cement work, wiring and plumbing. The offset plant now occupies the lower floor of the plant and the upper part, at street level, is rented to two other businesses as indicated by the signs.

#### Offset Expands Business

There's nothing like offset for building a printing business, asserts Howard Keller, president of D. F. Keller & Co., Chicago. Founded in 1899, the company operated as a letterpress concern for 40 years. Then, in 1939, they put in their first offset equipment. Now they have five offset presses with camera and platemaking equipment. All five presses are Harris models, the latest of which, a 17 x 22 inch, single color, was added last August. Reviewing 1951 figures of his operation at the year's end, Mr. Keller realized the payoff, he said. Slightly over one-half his sales were for offset products and this year the outlook, he said, is that the ratio between business produced by the two processes will be widened still more. For offset to outstrip letterpress in only 12 years, he said, in relating this to *ML*, seems to him "something to shout about."

\*

#### Denver Co. Adds Two-Color

Bradford-Robinson Printing Co., Denver, recently installed a Harris 42 x 58" two-color offset press. This is part of an expansion program.

#### Ink Co. Opens Milwaukee Plant

Consolidated Printing Ink Co., St. Paul, Minn., began operations January 1 in a new branch plant at 108 E. Burleigh St., Milwaukee. A full line of litho and letterpress inks will be manufactured. Harold Koehler, in the Milwaukee territory for five years, is branch manager, and John F. Green has charge of production. The plant provides 5000 square feet of space. P. G. Stevens is president of Consolidated.

**Macbeth**  
caters to  
*Your Preference*

There's a right choice for every job.

B-1C CONSTANTARC

B-16 PRINTER

NONSPOT reflectors insure even light distribution. Lamps sturdily constructed and easy to handle.

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① **ULTRAMODERN**  
*electronic*  
motor-controlled  
**CONSTANTARC**

Arc stabilization completely and continuously automatic. Successive exposures produce identical results.

② **TRADITIONAL**  
solenoid-controlled  
arcs of distinction

For the many fine features of these and other models see illustrated catalog furnished on request.

**MACBETH ARC LAMP CO.**  
World's Standard Photo Lamps  
141 Berkley Street Philadelphia 44, Pa.

# "CHAMPION"

BEATS ALL

## 6 ORIGINAL FEATURES

1. Equipped with latest type G. E. hermetically sealed, trouble free refrigerating unit; operating cost is less than \$2.00 monthly.
2. In operation, a continuous flow of water is not required. Result: No water wasted.
3. Separate desired temperatures maintained for trays as well as chemical storage compartment.
4. Has trough along the full length of the back for disposal of tray contents.
5. A long swivel faucet services each of the trays.
6. Jeweled signal lights indicate cooling and heating cycle for trays and cooling cycle for chemical storage compartment.

**CHAMPION TEMPERATURE CONTROLLED DEVELOPING SINK** has many original, outstanding and labor-saving features. It is properly designed and expertly made to insure the utmost in efficiency.

## TEMPERATURE CONTROLLED DEVELOPING SINKS



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CHESTER, ILL.	(2)
LAKE SHORE PHOTO ENG. CO.	(1)
Chicago, Ill.	(1)
NORTHWESTERN PHOTO ENG. CO.	(1)
Chicago, Ill.	(1)
REGISTER-TRIBUNE	
Dex Moines, Ia.	(2)
KANSAS CITY STAR	
Kansas City, Mo.	(2)
HOBAN ENG. CO.	
New York, N. Y.	(4)
WALKER ENG. CO.	
New York, N. Y.	(4)
PARKER ENGRAVING CO.	
Houston, Texas	(2)
CHRONICLE	
Houston, Texas	(3)
WALLACE MILLER CO.	
Chicago, Ill.	(1)
AIRKON LITHO PLATE CO.	
Albuquerque, N. M.	(1)
GATEWAY PHOTO ENG. CO.	
Fargo, N. D.	(1)
AD SERVICE CO.	
Cleveland, Ohio	(2)
APEX ENG. CO.	
Cleveland, Ohio	(1)

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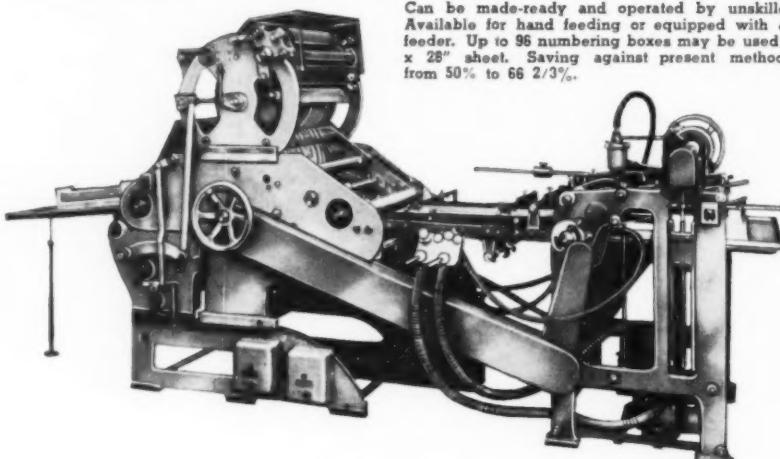


**H. SCHMIDT & CO.**  
(ESTABLISHED 1891)

317 S. Paulina St., Chicago 12  
SEELEY 3-0404

## HALLEY ROTARY NUMBERING and PERFORATING MACHINE

HIGH SPEED • SIMPLE TO OPERATE • RELIABLE



Can be made-ready and operated by unskilled labor. Available for hand feeding or equipped with automatic feeder. Up to 96 numbering boxes may be used on a 23" x 28" sheet. Savings against present methods range from 50% to 66 2/3%.

Write for complete information today

EASTERN SALES & SERVICE

MARAC MACHINERY CORPORATION      1819 Broadway      •      New York 23, N. Y.

### **Manz Sells a Building**

Manz Corp., Chicago, has sold the building at Homan and Grand Avenues to which its offset operations were transferred when purchased four years ago, and has moved the offset department back to its main building at Irving Park Road and Ravenswood Ave.

### **Clarence Fairbanks Passes**

Clarence T. Fairbanks, 69, former president of Edwards & Deutsch Lithographing Co., Chicago, died December 16 at Wesley Memorial Hospital, that city. Mr. Fairbanks spent practically all of his business career with E. & D., having entered their service 40 years ago, when he was 29. Thirteen years ago he was elected president of the company, a position from which he retired last July on condition that he continue to serve as consultant to the firm which he had built into a dominating position as a producer of 24-sheet posters and other litho specialties. He was a

founder of the Chicago Lithographers Association which, under his leadership became an important factor in the making of policies affecting the economic welfare of the local industry. Surviving are his widow, Frances, a daughter, a son and one brother.

### **Niagara Names Officers**



James Doig      Frank P. Nellis

President Horace Reed of the Niagara Lithograph Co., Buffalo, N.Y., recently announced the election of John McWilliams Reed as board chairman and Carl N. Reed as executive vice president.

They are Mr. Reed's sons and have been with the company many years. The chairmanship and executive vice presidency are new positions.

Mr. Reed, who continues as president, also announced the election of Frank P. Nellis, a vice president in charge of the Chicago office of the company, as a director.

James Duig, associated with Mr. Nellis in Chicago, has been elected a vice president.

The new chairman, John McWilliams Reed, has been vice president and assistant treasurer since 1927.

The new executive vice president, Carl N. Reed, has been vice president since 1927. He joined the company in 1921 after attending Dartmouth College.

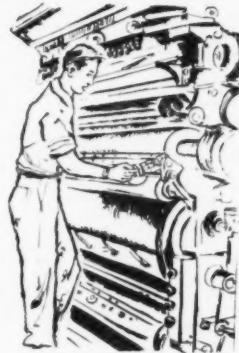
Other officers remain the same: Armin R. Perry, secretary and assistant treasurer; Sidney B. McAllister, treasurer; Hugh R. Monroe, vice president and Louis G. Audette, vice president in charge of the New York office.

The Niagara Lithograph Company was founded in 1896 by Horace Reed and today is a leading producer of lithographic point-of-sale advertising material.

## **CUT ROLLER WASH-UP "DOWN TIME" with the**

# **BALDWIN PRESS WASHER**

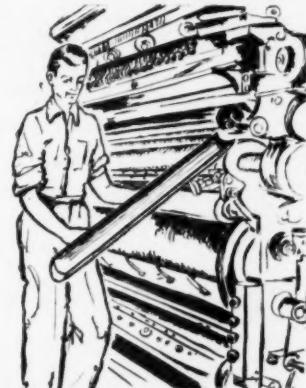
**FOR OFFSET  
AND  
ROTARY  
LETTER PRESS**



Thumb Screw Operation

BALDWIN Press Washers, Ink Fountain Agitators, Ink Vibrating Rollers, Water Fountain Levels and Water Stops are made by:

**WILLIAM GEGENHEIMER CO.  
78 ROEBLING ST., BROOKLYN, N.Y.**



Removable Pan—Easily and Quickly Cleaned



## COLOR STRENGTH WORKABILITY MILEAGE SERVICE

At S & C long experience in serving lithographers and continual research combine to give you the answer to your ink problems. Plan now to simplify your production by standardizing on S & C inks for every job, whether it is on metal or paper.

**SINCLAIR & CARROLL CO., INC.**

591 ELEVENTH AVE., NEW YORK CITY, Plaza 7-2470  
New York   Chicago   Los Angeles   San Francisco

# Schultz

# DEEP ETCH

# chemicals

Proved dependable and economical in leading litho plants for more than a decade. You too will find it profitable to standardize on Schultz Chemicals for all your deep etch requirements.

**H. J. SCHULTZ**

1240 W. MORSE AVE. CHICAGO 26, ILL.

### Roesch Suffers \$35,000 Fire

A fire late in December in the basement of the plant at 1886 Mission St., San Francisco, did an estimated \$35,000 worth of damage to supplies and equipment of the Louis Roesch Co. Two firemen were overcome by smoke, but none of the 100 employees of the lithography firm received any injury. An employee gave the alarm when he noticed smoke. All employees were escorted outside as the basement was burned out and considerable smoke and water damage was done on the first floor. Firemen said the fire may have been caused by a short circuit in a pump.

### Wages Up in Seattle

Seattle lithographers were granted a \$6.01 weekly wage increase in a contract negotiated recently by the Amalgamated Lithographers of America, Local No. 45, and the Employing Lithographers of Seattle.

The increase makes the scale for journeymen \$100.51 per week. The contract, which includes an escalator clause based on the cost-of-living index, was effective January 1st.

### Paper Details Chicago's Industry

Chicago's graphic arts industry was portrayed by the *Chicago Tribune* in a lengthy Sunday feature article appearing Dec. 16 as one in a series on that city's leading industries. Citing the Graphic Arts Association of Illinois as its authority, the article states that the Chicago metropolitan area has about 2,500 printing establishments, not including newspapers, has 90,000 employees and turns out a half billion dollars worth of printed products annually.

Chicago's "Big Three," R. R. Donnelley & Sons Co., The Cuneo Press and the W. F. Hall Printing Co. are described as the nation's largest printing concerns and the article adds that "Opinions vary on how they rank in size, but Chicago doesn't have to worry about this because it has all three of them."

Growth of the lithographing industry as such is not specifically detailed, but reference is made to development in Chicago of the color

printing process and the pioneering part played in it by 83-year-old Theodore Regenstein. Among litho plants mentioned, with short historical sketches, names of present executives and lists of products, in addition to Donnelley's and the Regenstein Corp., are the following.

Rand, McNally & Co., Edwards & Deutsch Lithographing Co., Manz Corp., Neely Printing Co., Gunthorpe-Warren Printing Co., New-

man-Rudolph Lithographing Co., Inland Press, A. B. Barnes & Co., Workman Mfg. Co., Magill-Weinheimer Co.

"Besides being one of Chicago's biggest and oldest," says the article, "it is one of the most technical. The business is heavily influenced by the almost constant change that goes on in printing equipment. Many improvements seem insignificant to the outsider but printers have to understand them to remain competitive."

**HUMIDIFY NOW**  
—for better year 'round  
printing production!

- ELIMINATE CURLED STOCKS AND WAVY PAPER
- REDUCE TIME-CONSUMING PRESS SETTINGS
- AVOID POOR REGISTER DUE TO VARIATION IN PAPER SIZE
- ELIMINATE STATIC AND PRESS CHOKEUPS
- SPEED PRODUCTION WITH UNIFORM INK DRYING
- REDUCE WEAR ON RUBBER PLATES AND ROLLERS

**-with Walton**  
CONTROLLED  
**HUMIDIFICATION SYSTEMS**

**The practical answer to  
humidity variation problems**

Controlling the moisture content of the air in your plant will condition your paper and require only a modest investment that pays dividends in lower printing costs and improved printing quality. Properly controlled humidity, by Walton, eliminates humidity variation and consequent changes in paper size and shape. Inks dry on schedule, and wood and rubber parts wear longer. For finer printing at lower cost, check on the Walton System, today!

**JUST OFF THE PRESS!** The new edition of "Humidification for the Graphic Arts and Paper Craftsmen". Write to Dept. 95

SPECIALISTS IN INDUSTRIAL, COMMERCIAL AND RESIDENTIAL CONTROLLED HUMIDIFICATION

**WALTON LABORATORIES INCORPORATED IRVINGTON 11, NEW JERSEY**

# *A Complete Service!*

OFFSET PLATES

ADVERTISING ART

COMMERCIAL PHOTOGRAPHY

LETTERPRESS PLATES

ROTOGRAVURE

## GRAPHIC ARTS CORPORATION OF OHIO

110 OTTAWA STREET • TOLEDO 4, OHIO  
DETROIT NEW YORK CHICAGO



THAT'S *Graphic Arts*  
MAKERS<sup>TM</sup> OF FINE PRINTING PLATES



## NEUSEL'S DEEP ETCH CHEMICALS

For high-quality plates . . . long run economy. Nylon-filtered coating, plus Neusel's high quality craftsmanship and consistent uniformity guarantee top quality results on every plate.

Lithographers all over the country are simplifying their deep etch plate making operations by standardizing on Neusel products.

DEPENDABLE SERVICE  
GUARANTEED UNIFORMITY

All orders shipped same day received.  
Write for full particulars



**HERMAN H. NEUSEL**

1724 Greenleaf Ave., Chicago, 26, Ill.

Ambassador 2-5505

# LITHO CLUB

NEWS

## Boston Quizzes Panel

The annual Quiz Night of the Boston Litho Club was held at the Hotel Gardner, Boston, Dec. 10. A panel of experts, with Harvey Glover, Sweeney Lithograph Co., Belleville, N. J., as moderator, handled the questions. They were Albert A. Richards, Bingham Bros., on rollers; Al Reynolds, S. D. Warren Co., paper; James F. Haydock, of Forbes Lithograph Mfg. Co., press; Glenn Curtis, platemaking, and John White, camera, both owners of the Litco Offset Corp., So. Boston.

Mr. Glover presented those at the head table with lithographed ties.

There were 69 present, and questions were submitted on cards that came in by mail, or were written prior to the quiz session.

Herbert L. Borden, vice president, Hub Offset Co., recently was elected a member of the board of governors, to fill the vacancy caused by the resignation of Jerry Ferragamo, as president of the club. Merrill N. Friend, Spaulding-Moss Co., is club president.

The Club will sponsor a ladies' night Valentine party in February.

## Conn. to Meet Feb. 1

The Connecticut Valley Litho Club is to meet Friday February 1 at the Bond Hotel, Hartford.

## N. Y. Club Nominees

The Litho Club of New York, during December, nominated a slate for election which is to be part of the regular January meeting at the Building Trades Club, Wednesday, January 23. Jacques Tisne, Schlegel Lithographing Corp., present club president, heads the slate as president; Angelo Pustorino, is up for vice president, John Collison for treasurer, and Hammond Sullivan for secretary. Listed as nominees for the board of governors are: Leonard Adams, Dante Mazzocco, Arthur

Schuldt, Don Rovegno, Otto Hilpl, William Schmitt, Rene Daubenbis, George Thompson, Daniel Ford, and August Schneeberg.

Walter E. Soderstrom, executive vice president of the National Assn. of Photo-Lithographers, is to address the January meeting. He returned last month from a six weeks tour of Europe and the Middle East, visited some litho plants, and addressed some graphic arts groups abroad.

The New York Club has announced the following as new members: Thomas L. Sewell, Hooven Letters, Inc.; Fred Behrens, Terminal Lithographing Co.; Jack Schoenberg and Charles Hassler, Peter F. Mallon, Inc.; Joseph T. Michalski, Edward Press; Cecil E. Kelley, Lithographers Service; Richard F. Shaffer, Schlegel Lithographing Corp.; and Edward N. Patterson, St. Regis Paper Co.

The club's annual Christmas stag party was held at the Building Trades Club December 12, with an attendance of well over 400. In addition over 100 persons were turned away because of a full house. A turkey dinner and a floor show filled out the evening. Michael Annick, Rutherford Machinery Div., was general chairman of the affair. Because of illness many of the details were concluded by Edward Reed, of the Rutherford company.

## Chicago Holds Family Party

The Chicago Lithographers Club dedicated its Dec. 20 meeting to the Christmas spirit, with all business set aside and the evening devoted to a quiet family gathering around a tree at the Morrison Hotel. Music kept things lively during the dinner and members joined in singing carols. Then came Charlie Rahn's "grab bag," now a tradition with the club. Each person in attendance contributes a packaged gift of modest value and

## LITHO CLUB GUIDE

### BALTIMORE

T. King Smith, Secy.  
5720 Leith Walk  
Baltimore 12, Md.

### BOSTON

Domenic Bonanno, Secy.  
Boston Offset Co.  
166 Terrace St.  
Roxbury 20, Mass.

### CHICAGO

Michael H. Bruno, Secy.  
Lithographic Technical Foundation  
1800 S. Prairie Ave., Chicago 16

### CINCINNATI

Harold Knoppenberg, Secy.  
Advance Decalcomania Co.  
Cincinnati

### CLEVELAND

Sol D'Alessandro Secy.  
Horn & Norris, Inc.  
2725 Prospect Ave., Cleveland

### CONNECTICUT VALLEY

C. J. Vandermark, Secy.  
Vandermark Co.  
133 Laurel St.  
Hartford, Conn.

### DALLAS

Lionel Burnham, Secy.  
Reddeco Printing Co.  
Dallas, Tex.

### DAYTON

Edward Bode, Secy.  
500 Marjorie Ave.  
Dayton 4, Ohio

### DETROIT

Edwin Shaefer, Secy.  
White Litho & Letter Service  
66 E. Forest, Detroit 1, Mich.  
Meets 2nd Thurs. at Carl's Chen House.

### MILWAUKEE

Steven F. Karabensh, Secy.  
2421 N. 45 St.  
Milwaukee 10, Wis.  
Meets 4th Tuesday at the Miller Inn.

### MONTREAL

Dave Riddell, president  
Montreal Litho Co., Montreal, Canada

### NEW YORK

Hammond Sullivan, Secy.  
1065 Lorraine Ave.  
Union, N. J.  
Meets 4th Wednesday, Building Trade Club

### OMAHA

Roy Oglesby, Secy.  
4515 N. 37th St., Omaha 11, Neb.

### ONTARIO

V. B. Black, Secy  
Canadian Fine Color Co.  
Logan Ave., Toronto, Ont., Canada

### PHILADELPHIA

Joseph Winterburg, Secy  
622 Race Street,  
Philadelphia 6.  
Meets 4th Monday, Poor Richard Club.

### ROCHESTER

Carl Binger, Sec'y  
Rochester Offset Plate Corp.  
89 Allen St., Rochester.

### ST. LOUIS

Raymond Benz, Secy.  
Hallenberg Press.

### TWIN CITY

Harold Smith, Secy.  
Route 2  
Wayzata, Minn.

### WASHINGTON

Fred J. Diegelmann, Secy.  
P.O. Box 952 Benj. Franklin Sta.  
Washington, D.C.  
Meets 4th Tuesday.

### NAT'L ASS'N. OF LITHO CLUBS

Joseph Winterburg, Secy.  
622 Race St., Philadelphia 6, Pa.

**Another Testimonial  
to the Excellence of  
MIDWAY  
NON-SCRATCH DRYER**



When hard drying is essential, use MIDWAY-SCRATCH DRYER to assure thorough drying, and to make it possible for you to back up forms in the shortest possible time. The following features make MIDWAY the number one dryer choice for lithographers:

- Will not dry on press, either running or standing, thus eliminating costly washups.
- Will not crystallize, thus ideal for color overprinting.
- Exact quantity used not critical. Will improve the working qualities of ink even when accidentally used in excess.
- Crystal clear, 100% transparent.
- Low in cost. Its incorporation actually lowers the cost of litho inks.

We are basic producers of the ingredients, and through control of the raw material can offer a completely uniform finished dryer.

MIDWAY NON-SCRATCH DRYER can be purchased in following containers:

1, 2½, 5 and 10-lb. cans.  
30 and 55 gal. drums.

or in other containers to suit user's convenience.

From a can \_\_\_\_\_ to a carload.

*Send for free trial sample*

**MIDWAY LITHO SUPPLY CO.**  
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members line up to "grab", sight unseen, for one of the presents.

Election of officers will take the spotlight at the January meeting, Pres. Lester von Placheck of Process Litho Arts, announced, and an added feature will be an illustrated travelog by Al Brown of the Chicago Lithographic Institute's staff, his subject being his frequent summer travels as an artist in Mexico and Central American countries. A new location at the Hamilton Hotel will be the place for this January meeting, Pres. von Placheck emphasized.

#### Phila. Plans Ladies Night

The annual ladies night, dinner dance of the Litho Club of Philadelphia is planned for Saturday evening, February 2 at the Bellevue-Stratford Hotel.

The club's regular January meeting date was changed to January 14 in order to tie in to Printing Week observances in that city. The annual quiz night was to be held, with questions being handled by a panel

of men to be announced locally.

Three new members have been announced by the club: Les J. McGinley, Jos. Hoover & Sons Co.; Harry J. P. Mason, Philadelphia Bindery; and Robert B. Harris, Bingham Bros. Co.

#### Cincinnati in Active Observance

The graphic arts industry of Cincinnati, has arranged its most elaborate observance of Printing Week, using as its theme, "Printing Promotes Freedom."

Highlighting the observance will be an elaborate exhibit of printing equipment in actual operation in the spacious lobby of the downtown office building of the Cincinnati Gas and Electric Co. from Jan. 10 to 30, together with films pertaining to the printing industry, demonstrations of unusual printing applications, and specimens of all kinds of printing done locally. Visitors will receive a daily newspaper printed in the lobby, and there will be a variety of appropriate attendance prizes.

Many of the city's leading printing

establishments will hold open house for the public, and a considerable volume of newspaper, radio and television publicity has been arranged. Poster stamps also were being affixed to the outgoing mail of all local printers from Dec. 1 through Jan. 19.

A Printing Week luncheon was to be held at the Cuyler Press Club on Jan. 14, with Judge James Garfield Stewart of the Ohio Supreme Court as the speaker, and the oldest active printer in the city as guest of honor.

General chairman for the observance is Roy Dieterlen, advertising and sales promotion manager, Diem and Wing Paper Co., and the exhibit chairman is E. W. Hodgetts, sales promotion manager, Cincinnati Gas and Electric Co.

Sponsoring organizations are Miami Valley Lithographers Association, Cincinnati Litho Club, Craftsmen's Club, Graphic Arts Association, Advertisers Club, Photo Engravers Association, Ohio Valley Silk Screen Association and Cuyler Press Club.

#### 550 At Capital Party

The Washington Litho Club's seventh annual Christmas Party, held at the Mayflower Hotel, December 8, drew an attendance of 550 persons. Jerry Looney, Navy Hydrographic Office, and Mrs. Looney received recognition for their efforts in connection with the arrangement for the club's Christmas parties and other social functions. Paul Heideke, president of the Washington Planographic Co. (shown, left) presented Mr. Looney with a \$500 Defense Bond, a gift of several commercial lithograph men, and to Mrs. Looney a floral tribute for her assistance. A special guest at the party was John J. Deviny, Public Printer of the United States. Fifty prizes were

awarded to various ticket holders. Winners are shown below.

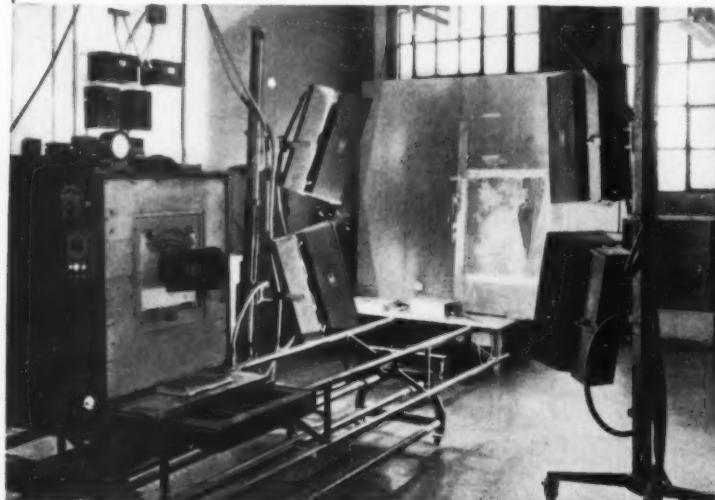
The January meeting of the Washington Litho Club will be held on the 22nd at a place to be announced locally, club officials announced. Burton M. Langhenry, assistant vice-president of the Acacia Mutual Life Insurance Co., Washington's largest commercial institution is to speak. He is in charge of the company's public relations and conducts the orientation classes for new employees. He has been with Acacia for 23 years, interrupted only for army service. His talk will be entitled, "Are Your Public Relations Showing?"



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### Todd Co. Appoints

Robert L. Cunningham has been appointed manager of the Cincinnati branch of the Todd Company, Rochester, N. Y. He has been chief estimator in the company's printing division in Rochester and will succeed H. Milton Blood, who resigned because of ill health.

### New Paste-up Method

A new method of paste-up in preparing copy for offset lithography has been announced by the Arma Co., 1205 Sippo, S. W., Canton 10, Ohio. The company, which is now offering two types of hand tools for the process, outlines the method as follows:

Proofs are pulled, or typing is done on "thermum paper." This paper when heated to the proper temperature adheres to other papers. Proofs thus can be mounted without any other type of cement or adhesive, simply by touching the heated tool to the proof. Tools are heated by electric elements wound to give the proper temperature.

For proofs already pulled on regular coated stock, the thermum paper can be used as the mounting stock. The thermum paper, according to H. W. Barnhart of the company, may be obtained from Seal, Inc., Shelton, Conn.

Savings of 30 to 60 percent have been made by the use of this paste-up method, Mr. Barnhart claims. These are offset to a small extent by the cost of the thermum paper.

### A Correction

An error in the advertisement of The Senefelder Company, New York, in the November issue of *Modern Lithography*, mis-labeled the color of the advertisement. This color should have been "Permanent Brilliant Green Lake 248P-2". The advertisement appeared on the inside front cover. Sorry.

### Northwest Training Foremen

The PIA foreman's management program got under way December 15-17 in the Northwest, when William F. Gutwein was in Portland to

train instructors and launch the training project. Mr. Gutwein, of the C. T. Dearing Printing Co., Louisville, Ky., is director of the PIA program. Dr. Frederick W. Hile, of the University of Washington, is the instructor in Seattle; George Y. Martin, superintendent of the College Press, Oregon State College, is the instructor in Oregon; and Carl Pitts, of the Syme York Co., Boise, Idaho, is instructor in that state. Glen W. Cruson, general manager of the Oregon Printing Industry is cooperating in the project.

### Frank L. Aikens Dies

Frank L. Aikens, 59, a sales representative for Harris-Seybold Company's central district, died December 3 at his home in Cleveland. Before joining Harris-Seybold in 1945, Mr. Aikens was for many years a salesman for various printing plants in Ohio.

He was especially interested in the problems of the small offset shop, and the combination shop. He was a member of the Cleveland Litho Club and the Cleveland Craftsmen.

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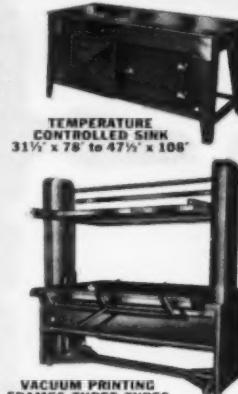
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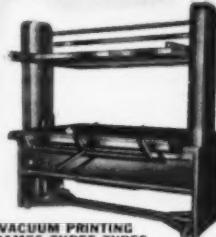
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# EQUIPMENT SUPPLIES, SERVICES, BULLETINS

## Develops New Film Base

An entirely new synthetic base for photographic film has been developed by Du Pont research, it was announced last month by the Du Pont Company. Preliminary tests show that it is several times tougher and has much greater dimensional stability than any of the present types of film base, the company reports. It is classed as a safety base, and is less flammable than present safety bases.

The new material, technically known as a polyester, is chemically related to "Dacron" polyester fiber, the newest of the company's synthetic textile fibers. Both are condensation polymers made from ethylene glycol and terephthalic acid.

Du Pont's Photo Products Department is currently producing polyester base in laboratory scale equipment and will shortly start up a new pilot plant at its Parlin, N. J., laboratory.

Polyester base is exceptionally tough, Du Pont says. It has twice the tear resistance of the standard acetate or nitrate base film.

The dimensional stability of the new base offers important advantages, particularly in the motion picture industry and graphic arts. Polyester base keeps its shape to a remarkable extent even under the most extreme conditions, and such microscopic changes as do occur are much smaller than in existing films, the company claims. Another characteristic of the new base, its lack of brittleness at low temperatures, combined with its dimensional stability, makes it suited for aerial mapping films which must frequently withstand low temperatures and humidities.

Five years of research and an in-

vestment of more than one and a quarter million dollars already have gone into the development of this new film base, the company said. It added that the decision as to large-scale production would await the results of the evaluation tests now being conducted in cooperation with the Motion Picture Research Council and others having special interest in the unique properties of the new material. If it meets all tests satisfactorily, more than two years will be needed to design and complete large-scale manufacturing facilities, the company emphasized.

## New Line-Up, Register Table

The new Gelb line-up and register table is described and illustrated in descriptive literature available from Joseph Gelb Co., 356 W. 40 St., New York. Features of the equipment include precision gear driven horizontal and vertical straight edge

carriers, Vernier dial calibrated from 64ths to 100ths inches, automatic compensation for varying thicknesses of working materials, glareless illumination and two paper grippers. The standard models operate on 110 volt, AC current. Models equipped for other voltages and currents are available also. The tables come with the following work area sizes: 30 x 40", 44 x 64", 51 x 76", and 62 x 84".

## Offers Knife as Premium

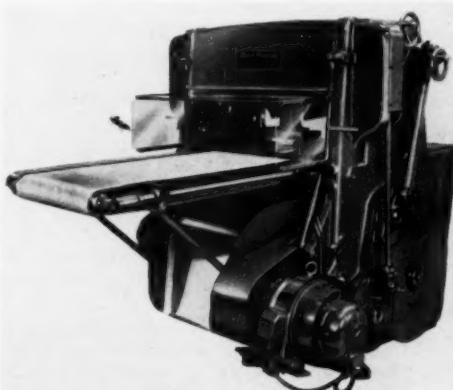
The Merritt Products Co., Cleveland 14, Ohio, is offering a padding knife free with a minimum order of 1 gallon or 4 quarts of Merit Pad, ready mixed, cold process, padding compound.

According to W. H. Ostrow, general manager, the purpose of this offer is to acquaint new users and dealers with the product.

Offer is made only through local Merit Pad dealers.

## Three-Knife Trimmer

E. P. Lawson Co. Inc., New York, has announced its appointment as exclusive U. S. distributor for the Rapid Trimmer, a new automatic three-knife trimmer. The machine is automatic, and is said to be engineered for volume production, conveyor line operation in the trimming of magazines, books and pamphlets. It will handle trimmed work in sizes from 2" x 3-1/8" to 11-1/34" x 16-7/8". It weighs over 4500 lbs. D. W. Schukind, Lawson president, states that the machine is



now on display in the firm's showroom at 426 West 33rd St., New York.

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44" x 64" HARRIS LF  
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22" x 34" HARRIS S5L  
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### **Booklet on Record Stocks**

Ways to purchase and use ledger papers and index cards more efficiently for bookkeeping, accounting and other record keeping purposes are described in a new booklet just issued by the Parsons Paper Co., Holyoke, Mass.

In non-technical terms, the booklet outlines the significant differences among the various grades of high quality papers and card stocks. Included in the booklet is a table which classifies the four major grades of cotton fiber papers — 100%, 75%, 50% and 25% — by recommended usages — the length of time the records may be kept and the amount they may be handled.

Many manufacturers of fine paper, the booklet points out, now call their product "cotton fiber paper" rather than "rag paper" or "rag content paper" — a movement in which Parsons led. The reason, it is explained, is that old, worn rags — formerly used for many papers, and still used for some — tend to make the paper itself weaker.

One of the booklet's features is a table telling how many "handlings" and how many years of service may be expected of the various grades of cotton fiber paper.

Copies of the booklet are available on request from the Parsons Paper Co., Holyoke, Mass.

### **Folder Promotes Color Work**

"How You Can Buy More Color for the Same Money" is the title of a new folder describing the new Dayco multi-color system, a method of color printing now available from many printers but unknown to many users of printing and lithography.

Written primarily for advertising artists, agencies and layout men, the folder will prove helpful to all persons who buy printing of any sort.

The folder itself is a demonstration of the method. It contains 36 variations of colors produced by running the stock through a Harris LST "2-color" press twice. It gives illustrated concise, step-by-step directions for using the system. It was litho-

graphed by Reynolds and Reynolds, Dayton.

Copies may be obtained without charge from the Dayco M-C Division, Dayton Rubber Company, Dayton 1, Ohio.

### **Issues Color Guide**

A Standard Color Guide, for letterpress and offset, has been issued by Sigmund Ullman Co., division of Sun Chemical Corp., 10th St. and 44th Ave., Long Island City 1, N. Y. The pocket-size specimen book shows 48 full strength colors printed in solid and screen values. Twenty tints made from transparent formulas also are shown.

### **Booklet on pH**

"pH, What It Is, How to Measure It", is the title of the latest booklet (Bulletin 803) issued by the Lithographic Technical Foundation, 131 East 39 St., New York 16, N. Y. The book is priced at \$2 to non-LTF members, with the usual discount to members.

### **Details on Skid-Lift**

A folder is available describing the Walbert paper skid lift which raises skids of paper to desired working heights, or will maintain the top of the lift at desired heights. Advantages claimed are that it speeds up work, and eliminates worker fatigue. It will lift up to 3,000 pounds. Information is available from Walbert Machine Co., 819 East 19 St., Kansas City 8, Mo.

### **Booklet on Press Operation**

"Operating a Small Offset Press" is the title of a new 32-page booklet recently published by the Harris-Seybold Company.

The booklet reviews general principles and practical instructions for maintaining and operating offset presses in the 17x22" and 21x28" sizes. Although the information deals specifically with small Harris presses, the general principles can be applied to most offset presses, the company said.

The pocket-sized booklet is based on a series of four articles which appeared recently in "Harris Impressions," Harris-Seybold's bi-monthly technical publication for the lithographic industry. Roy Barnes, Harris-Seybold's field training supervisor and special service representative, was the author.

Lubrication, loading of stock, plate installation, cylinder packing, and roller setting are a few of the topics discussed. Photographs and line drawings illustrate important press mechanisms, while cartoons emphasize points in the text.

Copies are available without charge from Harris-Seybold at 4510 East 71st Street, Cleveland 5, Ohio, or from the company's field offices.

### **Issues Static Report**

How to control and eliminate the problems of static electricity in the printing and paper handling industries is the subject of the latest publication of the Research and Engineering Council of the Graphic Arts Industry. Starting with a basic explanation of what static electricity is and why it causes so many problems to the printer and binder, the report goes on to present the advantages, disadvantages and comparative costs of all the available techniques for controlling and eliminating this problem in the plant. From tinsel string to radio-active eliminators, every type of eliminator is discussed regardless of the size of the plant or the extent of the problem. A printer, a binder, book manufacturer or any other member of the graphic arts industry can determine which technique may be suited to his plant.

This report is the result of two years of study and research, the council says. The preparation of the publication was a cooperative project of the Battelle Memorial Institute and the council.

Copies of the Static Electricity Report may be obtained for \$5 by writing to the Research and Engineering Council of the Graphic Arts Industry, Inc., 719 Fifteenth Street, N. W., Washington 5, D. C.



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15 1/2 x 20 1/2 Web.	.55 "	.71 "
# 2066 Multilith	.55 "	.71 "
# 2066 Oversize	.70 "	1.05 "
# 1300 Multilith	.51 "	.66 "
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### New Slitter for Large Miehles

The Miehle Printing Press and Mfg. Co., Chicago, has announced a slitting mechanism for use on Miehle Offsets and Rotary Letterpresses in both the No. 61 and No. 76 sizes. Designed for quality slitting at high speeds, the mechanism is said to eliminate slitting on the impression cylinder before the sheet is printed, and consequent interference with register.

The sheet is slit by a score cut as it passes between a rotary knife and a hardened center ring which is an integral part of the slitter cylinder, located between the last printing unit and the delivery. Positive gripper control of the sheet at all times, combined with the score cut method, assures accuracy of slitting, the company says. A perforating knife may be used in place of a slitting knife.

An adjustment, accessible from the operators' side of the press, permits adjustments of the spring pressure of the rotary knife against the slitting ring while the press is in operation. Another adjustment raises the knife and makes the slitter inoperative. When the slitting head is lowered back into operating position, the knife returns to the previously set cutting pressure.

The slitter head and knife are movable as a unit within the middle half of the maximum sheet width. When slitting in this off-center position, the knife operates against a removable hardened spring steel band which is adjustable for positioning sideways. The mechanism can be adapted for certain types of multiple slitting.

The rotary knife is rigidly and accurately mounted on anti-friction bearings, yet can be easily removed for re-sharpening, according to the manufacturer. Both knife and slitting ring are manufactured from hardened steel.

### Bulletin on Densitometers

Detailed information on the operation and functions of two types of densitometers is contained in a bulletin issued recently by the Photovolt

Corp., 95 Madison Ave., New York 16, N. Y. The 24 page, 8½ x 11" booklet covers both the Photovolt electronic transmission densitometer and the reflection densitometer.

The various sections cover such phases of the subjects as applications, the transmission-density unit, operation of the instrument, interpretation of terms, description of reflection-density unit, reflection-density measurements, color analysis with filters, neutral gray filters, interference filters, applications of two types of

densitometry to lithography, photo-engraving and press printing, applications of other instruments in photography, power supply, and various charts of density values, percentages, conversion tables, etc.

The bulletin also is illustrated with several diagrams and halftones.

### Distributes for Crocker-Burbank

Milton Paper Co., New York, has been appointed a distributor for the lines of Crocker-Burbank Papers, Inc. of Fitchburg, Mass.

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PLATES AND FILMS have that extra  
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### **Consolidated, Hammer Merge**

A merger of Consolidated Photo Engravers & Lithographers Equipment Co., Chicago, into Consolidated Hammer Dry Plate & Film Co., St. Louis, effective December 26, was announced by Benjamin Sugarman, acting as president of Consolidated Hammer. All assets of the equipment company, which manufactures cameras and other equipment, were transferred to Consolidated Hammer under the agreement. Consolidated Hammer also assumes all obligations of the equipment firm, the announcement stated.

"Increased demands on vital defense work have made it necessary to expand our facilities and machine tool capacity," Mr. Sugarman stated. "We hope to be moved over by January 1 and will have open house shortly thereafter."

The acquisition of a new and larger plant at 1112 Homan Ave., with 45,000 feet of space, also was announced. The announcement listed executive offices at 2155 W. Wabansia Ave., Chicago 47, Ill.

Mr. Sugarman was president of the equipment firm which had been affiliated with Consolidated Hammer for some time.

### **Announce Roller Covering**

Tri-Mol, a new dampening roller covering material, was announced recently by Roll-O-Graphic Corp., 460 Broome St., New York 13, N. Y.

Made of three-ply imported molleton, the covering is available in sleeves or by the yard for any size rollers. The company is advertising 48 hour covering service.

### **Offer Photographic Abstracts**

"Ansco Abstracts", a monthly review of technical literature, produced in mimeograph form, is now being offered to the trade on a subscription basis of \$5 per year. Originally intended for use by the Ansco company's research department, the material covering photographic technical developments, literature references, new literature, and new patents, is now being made available to others. Abstracts cover many aspects of photography including physics and chemistry (plastics, organic, inorganic, etc.), graphic arts, purely photographic items, applications of photographic principles in television, radiography, medicine, and similar material. Patents are listed and reviewed, and quarterly numerical listings of equipment patents are included.

Information is available from the Research Department, Ansco, Binghamton, N. Y.

### **New Davidson Model**

Another new Davidson Dual combination offset and letterpress shop unit that will handle a 17 $\frac{1}{4}$ " wide sheet has just been announced by Davidson Corporation. This new press, known as the Davidson Dual,

Model 233, will handle stock from 4" x 6" to 14" x 17 $\frac{1}{4}$ ", has a printing area of 13" x 17", and will deliver up to 5400 impressions per hour, the company says.

According to the manufacturer, Model 233 embodies all the standard features of the 10" x 14" Davidson Dual, Model 221, which has been on the market for several years. It is built on the same two-cylinder principle, which makes it possible to produce both offset and letterpress printing with this one unit using paper or metal offset plates, type, electrotypes, or rubber plates. The changeover from offset to letterpress requires about ten minutes.

Like all other Davidson products, this new model is sold and serviced by Davidson sales and service agencies located in principal cities. Further details may be obtained from the manufacturer, Davidson Corporation, a subsidiary of Mergenthaler Linotype Company, 1020-60 West Adams Street, Chicago 7, Ill.

### **Lists All LTF Publications**

A catalog listing all publications available from the Lithographic Technical Foundation, has just been distributed by the LTF. At the same time the Foundation announced that prices of publications were being increased January 1 to meet rising production costs. Copies of the catalogs are available at 131 East 39 St., New York 16, N. Y.

The advertisement for The United Manufacturing Co. features four distinct panels. The top-left panel, titled 'BOX COVERING PAPERS', shows two boxes with diagonal hatching and the text 'PRINTABLE' and 'STRENGTH'. The top-right panel, titled 'GREETING CARD PAPERS', shows two cards with diagonal hatching and the text 'BEAUTY'. The bottom-left panel, titled 'MADE BY THE UNITED MANUFACTURING CO.', contains the company's name in large, bold, serif capital letters, with 'SPRINGFIELD, 7. MASS.' underneath. The bottom-right panel features a classical statue of a female figure. The entire advertisement is framed by a thick black border.

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# PLANETA

2 COLOR OFFSET PRESS

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original  
5  
cylinder  
press  
sold in  
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countries

FEATURES

- ★ 20% faster than Licensed English Model—\$500 per HR.
- ★ Cost Comparable to Single Color
- ★ Perfect Equalizing of Ink Color
- ★ Spies Stream Feed
- ★ Automatic Paper Pile Hoist
- ★ Ink Founts and Knife Removable from Ductor for Cleaning
- ★ Hydrostatic Control of Dampening Devices
- ★ Takes 36 x 50" Sheet
- ★ Available in Single Color 30 x 44", 36 x 50", 41 x 57"

(Write, wire or phone for demonstration)

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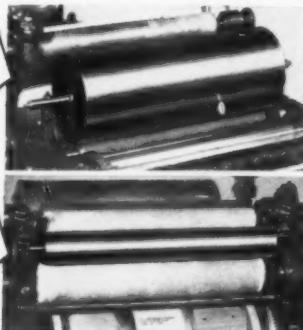


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**JUMBO SHELL  
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Run full length solids  
without a break! Gives  
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**VIBRA-ROLLER  
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use less moisture, run  
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**OFFSET & LETTERPRESS CORP.**

SPECIALIZING IN PRINTING MACHINERY

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MODERN LITHOGRAPHY, January, 1952

## 50TH YEAR

(Continued from Page 49)

service laboratory, development laboratory, research laboratory, and mechanical laboratory which is equipped with proofing presses, laboratory coater, electronically-controlled Brighton resin kettle, ovens, laboratory mills and retorts.

To control the uniformity and quality of its products still further, the company maintains a complete, modern varnish plant in which all of its vehicles, varnishes, driers and compounds are manufactured.

Besides 30 three-roller ink mills, the company has a mixing department equipped with four new Troy angular mixers. The mixing equipment also includes change-can, ball, pebble and colloid mills. Control of fineness of

grinding of the inks is accomplished by microscopic examination of each batch, since it has been found that the usual grinding-gauge method of visual inspection is not accurate enough for present day requirements.

Years ago, the company reports, it was found that ordinary heat-bodied linseed oil vehicles dry too slowly and do not possess sufficient toughness, gloss and workability on the press for best results. Consequently, pioneer work was done on the development of improved vehicles and today practically all Kienle inks are based on synthetic resin vehicles which the company says greatly improve drying speed, toughness of film and working properties on the press. Research and development chemists are seeking constantly for means to improve the inks and varnishes. New resins and vehicles continue to be developed and evaluated by the chemists.

## Tips on Using a pH Meter

From material prepared for current "Research Progress," issued by the Lithographic Technical Foundation

**A** QUESTION came up recently that was puzzling a technician in a lithographer's plant. The story is related here in case others run into the same problem.

He was making a series of tests on the pH of paper coatings and noticed that he was getting a pH reading of about 5 for distilled water. He immediately thought his meter was haywire. The reasoning was that the distilled water should be pure and pure water should have a pH of 7 (neutral).

On the surface, this thought seems reasonable. He was right in his belief that pure water has a pH of 7. The joker, however, is that the "pure" water has to be "chemically pure" (C.P.). And water that is truly chemically pure is very difficult to get.

For all practical purposes, distilled water is pure in the sense that we ordinarily use the word. But it is not chemically pure because it picks up carbon dioxide gas from the air and forms carbonic acid. The amount of carbon dioxide that the water absorbs and the amount of acid that forms is

very, very small. But it is enough for a good pH meter to record.

At first glance, it might also appear that the acidity of the distilled water would affect the pH reading that you'd get from the material you put in the water.

Strictly speaking this is true, but only to a very slight extent. The carbonic acid in the distilled water is quite weak and its "reserve acidity" is practically nil. (See Research Progress No. 8 for a discussion of reserve

Electrodes are washed with distilled water using a chemist's wash bottle, as shown here.

acidity.) The reserve acidity of the material you put in the distilled water is a great deal more than the reserve acidity of the water. The very weak acidity of the water is therefore "swamped" and has little or no effect on your reading.

This would be a good time to emphasize the necessity for absolute cleanliness when you make pH measurements. It is especially important when you are measuring the pH of weak acid or alkaline materials like paper or paper coatings. If you want accurate readings, the electrodes of your meter must be absolutely clean.

You can make sure that the electrodes of your meter are clean by the following procedures. Rinse the electrodes with distilled water using a chemist's wash bottle, as shown in the illustration. After rinsing, measure the pH of a sample of distilled water. Make a note of the reading. Then throw out this sample and repeat the procedure. Keep doing this until different samples of distilled water give the same pH reading. As we mentioned before, this reading will be around 5.

You will not be able to trust the pH reading of the material you want to measure until you have done this. Immediately after you measure the sample, it is good practice again to rinse the electrodes thoroughly with distilled water.

When you put the meter away, always leave the electrodes in distilled water so that they have no opportunity to dry out. The glass of the glass electrode is very thin and porous. It must be kept saturated.★



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BLACK AND WHITE AND COLOR

Many standard sizes and lines available for immediate delivery.

Make your 24" camera do the job of a 32" with a set of BM angle screens.

A set of 20" x 24" four angle screens will make as large a job in a 24" camera as will a 23" circular screen in a 32" camera.

*Ask Your Graphic Arts Supplier.*

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Keep complete selection on hand at all times. Don't waste valuable camera time making tints. 60 to 133 line in 6 tone values.

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52" x 76" Speed 6000

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### **Lead in Youth Training**

Lloyd Hollister, president of Lloyd Hollister, Inc., publishers of community newspapers by offset in Chicago suburbs, and Gordon Jones, president, Row Peterson Co., publishers of textbooks, including some by offset, have been named members of a new Junior Achievement committee which will supervise activities of this youth organization in north shore suburbs this year. A new center for the business operations of the young people was recently opened in Evanston to serve over 300 boys and girls who are encouraged to conduct modest manufacturing and selling enterprises for themselves, to learn how the business world is run.

### **Wisconsin Firm Adds 2-Color**

Johnson Printing Co., Eau Claire, Wis., recently added a Harris two-color offset press. The press will be used principally for the production of highway maps.

### **Demonstrates Art Method**

R. Geoffrey Smith, joint managing director of the publishing-printing house of W. S. Cowell, Ltd., London, Eng., was in the U. S. recently to, as he explained it, "sample interest in a refinement of photolithography in which the artist prepares contact positives on acetate." Reports from a meeting of the Society of Typographic Arts in Chicago, where Mr. Smith demonstrated his

process, were to the effect that "the results bore a vigor which halftone screen reproduction cannot match."

### **Paper Co. Issues Bulletin**

Paper Manufacturers Co., Philadelphia, gummed paper maker, recently issued a comparison bulletin which lists the various grades of all known brands of gummed paper and gives the corresponding grades (or nearest to it) of the company's own line.

Copies of this bulletin are available from the Gummed Division, Paper Manufacturers Co., Philadelphia 15, Pa.

### **TECHNICAL BRIEFS**

(Continued from Page 46)

comprising a resin and a solvent which vaporizes rapidly at the high temperature. The web from a roll is led around a heated drum which may be surrounded by a casing with inlet and outlet for heated air. The web is perfected by being passed around impression rollers co-operating with printing rollers. The rollers are cooled by circulating fluid from a tank by means of a pump with outlet pipes connected by pipes to the interiors of the cylinders, and return pipes, direct the fluid back to the tank which is fitted with a coil for controlling the temperature of the fluid. British Patent Office, 25 Southampton Buildings, London, W. C. 2, England.

**Printing Machines.** British Patent 614,211, Harris-Seybold Co. *Abridgement of Specifications Group XVI, Page 158.* A sheet-fed rotary offset perfecting machine is constructed with a chain provided with grippers for transferring sheets from the impression cylinder of the first offset couple A to the impression cylinder of

second couple B. The chain passes over a cylinder and, as the grippers pass round the cylinder, the sheet is reversed and taken by grippers on a delivery chain which passes around the impression cylinder of couple B and finally delivers the perfected sheet to a pile, the chain being arranged so as to permit access to the inking rollers. The transfer chain is arranged to pass under a platform which permits of access to the couple A. The couple A is so arranged that the line joining the axis of the printing cylinder and impression cylinder is vertical and the corresponding line of couple B is substantially horizontal. The once-printed sheet may be taken from the cylinder by chains passing round a cylinder arranged adjacent thereto, and the chain may pass around the impression cylinder of the second printing unit. British Patent Office, 25 Southampton Buildings, London, W. C. 2, England.★★

### **CONTROLS**

(Continued from Page 37)

#### **Attitude**

I don't know what title to give this seventh point of control. I only know it is a very important one.

For lack of a better descriptive term, I have decided to call it "attitude." The attitude toward attention to detail — and to known facts — that is displayed by those engaged in lithography is important.

Control, like good housekeeping, is more or less attitude, or a state of mind — and it can be good or it can be bad. One can work clean and orderly with less effort than is required to muddle around in confusion, and this business of lithographic printing can be controlled and brought through to successful conclusion a lot easier if we hold targets steady.★★

## **Increased Production at Less Cost—**

**PHOTO COMPOSED MULTIPLE** negatives or positives will do just that . . . glass or vinyl  
**MULTIPLES** make for better register and more uniform press plates

*Serving Lithographers and Metal Decorators for ten years*

*Flowers' color photo composing laboratory*

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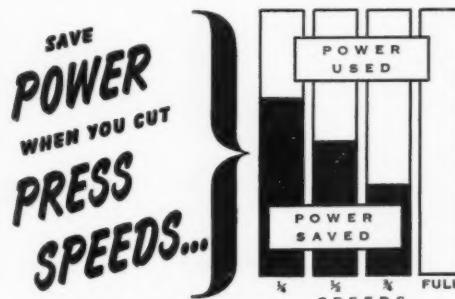
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**R**ELIABLE is far more than just part of our name. It means to our customers that our plates can be depended on to give first-class results because from start to finish the graining is handled by experts of long experience. Our plates are made right to work right—they are reliable!

**Reliable Lithographic Plate Co., Inc.**

17-27 Vanderwater St., New York 7, N.Y.  
BEEKMAN 3-4508 and 3-4531



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Stepless wide-range speed adjustment in either direction of rotation — merely by shifting motor brushes. The right speed for every press run.

Power consumption reduced in proportion to speed—no power wasted in resistors. Simple, efficient remote control—by convenient hand lever or foot pedal.



Write for Bulletin B302 describing these single-phase, brush-shifting repulsion motors.



**STAR-KIMBLE**  
MOTOR DIVISION OF  
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# CLASSIFIED

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All classified advertisements are charged at the rate of ten cents per word, \$2.00 minimum, except those of individuals seeking employment, where the rate is five cents per word, \$1.00 minimum. One column ads in classified, \$1.50 per column, including address and in classified, \$1.75 per column, including address and in classified, \$2.00 per column, including address, care of Modern Lithography, 175 Fifth Ave., New York 10, N. Y.

**Closing date:** 25th of preceding month.

### Help Wanted:

**LITHOGRAPHER:** Working knowledge photography and platemaking — intelligent, neat appearance, technical background, desirable. Sales and service position, New York area. Give full particulars and salary. Address Box 889, % *Modern Lithography*.

**OFFSET PRESSMAN:** For private plant located in a small village in Ohio. Must be experienced in black and white and color process work. Short hours, good working conditions. Address Box 890, % *Modern Lithography*.

**STRIPPER:** Must be experienced in 2 and 3 color work. Top wages and overtime. Write or call Printing Service Co., 642 S. Main St., Dayton, Ohio, phone Hemlock 5835 reversing charges.

**STRIPPER-PLATEMAKER:** To head night shift. Must be reliable and experienced in 2-3 color work. Spotless plant in central Michigan area. State experience and salary requested. Address Box 891, % *Modern Lithography*.

**SALESMAN** wanted by direct selling paper mill. Experienced. Knowledge of offset field for New England and Middle Atlantic States area. Excellent opportunity. Address Box 900 % *Modern Lithography*.

### Situations Wanted:

**JOURNEYMAN:** Offset camera operator and platemaker. Have some experience in color process work. Use both glass and contact screens. Have one year in photo engraving camera work. Simple stripping and layout . . . S. E. N. Cox 1401 Cecil Ave., Knoxville, Tennessee.

**PLATEMAKER:** Eighteen years experience, commercial, color, color process, both albumen, deep-etch. Also operate several types of photo-composing machines. Address Box 892, % *Modern Lithography*.

**OFFSET FOREMAN:** Thorough knowledge photography, process color and fake color work, stripping and plate-

making. Can set up plate dept. if desired. Will locate anywhere. Address Box 893, % *Modern Lithography*.

**PRESSROOM SUPERINTENDENT:** Desires position in Chicago or Milwaukee. Has been in trade over 20 years. At present superintendent of press production. Would prefer a personal interview. Address Box 894, % *Modern Lithography*.

### Miscellaneous:

**CASH PAID** for positives of art subjects suitable for picture puzzles. Especially interested in children, scenery, animals, human interest, etc. Great Lakes Press, 439 Central Ave., Rochester 5, N. Y.

**WANTED:** Going offset printing plant with annual gross of at least \$200,000. Prepared to act now and pay cash. Address Box 895, % *Modern Lithography*.

### For Sale:

**FOR SALE:** Model GT 41x54" Harris two-color offset press. May be seen in operation. Available immediately. Bargain. Address Box 896, % *Modern Lithography*.

**FOR SALE:** Distress sale. 41x54 single color offset. Excellent condition. Must be moved from premises for arrival new equipment. \$8,500 or make an offer. Maverick-Clarke, Box 228, San Antonio, Texas.

**FOR SALE:** Monotype - Directoplate

## ML has Moved...

The editorial, advertising, and circulation offices of *Modern Lithography* have moved to new quarters:

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You will want to change your records, yes?

BLX photo-composing machine complete with arc lamp, vacuum pumps, motors, etc. Duplicate 11x14", 14x17" and 16x20" negative chases. Single 20x24" and 28x36" negative chases. Press platen size 60 $\frac{1}{2}$ x87". This machine is in excellent condition and may be seen in daily operation producing top quality color press work by contacting Charles Cook, Superintendent, Haynes Lithograph Co., 1140 East-West Highway, Silver Spring, Maryland.

**FOR SALE:** 2,000 Zinc litho plates 15 $\frac{1}{2}$ x20 $\frac{1}{2}$ x.010 ungrained. 100 47 $\frac{1}{2}$ x59 $\frac{1}{2}$ .016 ungrained. Must sell low price. Address Box 898, % *Modern Lithography*.

(Turn the Page, Please)

## FOR SALE Harris Lithographic Presses

Harris Model LSM 42 x 58 Four-color  
Harris Model LSG 46 $\frac{1}{2}$  x 68 $\frac{1}{2}$  Two-color  
Harris Model LSH 50 x 69 Four-color

**HARRIS-SEYBOLD CO.**  
**4510 East 71 St.**  
**Cleveland 5, Ohio**

## FOR SALE

2 Color 41x54 Potter  
1 Color 41x59 Potter  
SBL Harris 28x42  
EL Harris 22x34  
MAC 17 $\frac{1}{2}$ x22 Webendorfer

**Northern Machine Works**  
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Lithographic Consultant

Process Studies	Process Coordination
Trouble Analyses	Personnel Training
Quality Improvement	Special Problems

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Lehmann 5 roller Ink Mill—34" long, 12" diameter. Water cooled bearings. AC motor, equipment. Has been used by leading Coast Lithographer.

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46 $\frac{1}{2}$ x68 $\frac{1}{2}$  HARRIS LSH 4-COLOR  
46 $\frac{1}{2}$ x68 $\frac{1}{2}$  HARRIS LSG 2-COLOR  
44x64 HARRIS LT 2-COLOR

ATRACTIVELY PRICED FOR QUICK SALE

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Heaven Too...."**

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In this industry . . . several operations-in-one, several profits-in-one have made the BAUMFOLDER the Greatest "Gold-Mine" since Ben Franklin's printing "explorations."

You know how it folds . . . pastes . . . trims . . . and folds for mailing, all in the same operation . . . and how it perforates, multiple lines in both directions at the same time . . . but . . . DO you know that something NEW has now been added . . . the BAUM-CRIMPER?

So now . . . you turn a sheet of paper into a folder, pasted, trimmed, crimped booklet, ready for mailing. Think of this ADDITIONAL ENORMOUS SAVING . . . ENORMOUS PROFIT!

Truly . . . "ALL THIS AND HEAVEN (Profit) TOO!"

**Russell Ernest Baum, Inc.**

615 Chestnut Street  
Philadelphia, Pa.

**Insures Proper Registration! Saves Paper!  
THE NEW IMPROVED PAPER HYGROSCOPE**

One job saved more than pays for the Paper Hygroscope. Simply insert the instrument in a skid of paper. Immediately, you know whether paper requires conditioning . . . and to what extent. Exact moisture content can be read for careful balancing with PRESSROOM. The result? Guesswork is eliminated; proper registration is insured; paper is saved.

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Instruments in Use Should Be Re-equipped  
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FOR DETAILS WRITE  
SPORTSMEN ACCESSORIES, INC.  
1 River Street, Beacon, N. Y.

# 2 COLOR

**OFFSET PRESS  
For The Price  
of A Single Color**

See page 102

**DRY PLATES  
FILM  
PHOTO CHEMICALS**

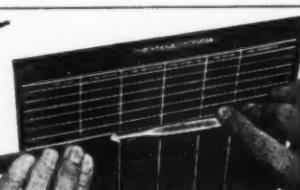
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**Litho Ruled Forms - QUICKER - EASIER - BETTER**

★ Perfect uniformity of rules—no film spoilage.  
★ 6 cutting heads in set: 4 for single rules from hairline to  
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**FOR SALE:** DSJ Vari typer, eight type fonts, perfect condition, bargain. Mrs.

Raymond Hammond, 339 N. Fairground St., Jackson, Tenn.

**FOR SALE:** One 31" circular 133 line halftone screen with holder. Perfect condition. Address Box 897, % *Modern Lithography*.

## PHOTO TIPS

by Eugene C. Moyseen

★ Do your screen tints, especially larger sizes such as 16 x 20 and 20 x 24, show a mottled effect when contacted from master tints, though the masters are known to be even?

Try disregarding the vacuum pump pressure indicator. It has been found that when it shows 30 lbs., waiting for another minute or so will give the equipment a better chance to press negative and film together, and show the overall pattern of oily-looking rings known as "Newton rings" before exposure is begun.

★ The majority, if not all, of single-arc lamps throw a "hot-spot" to the center of large copy. This area develops considerably faster than outer fringes, producing unevenly developed negatives among the large sizes, such as 20 by 24". Chemical reduction must be resorted to when this happens, with resulting addition of operating time to such jobs.

It is actually possible at times to capitalize on such problem copy by positioning the original to have weak points fall outside this "hot-spot" area, thus avoiding over-development, and achieving a slight under-exposure of the weaker points of the copy that will keep these open on the negative. The slight under-development can be controlled to yield a negative of sufficient opacity, being almost unnoticeable to the naked eye, but at the same time of great help to the platemaker and most certainly a precaution demanding less attention after development than do negatives habitually or accidentally overdeveloped.

★ Should you have occasion to use the enlarging papers (bromide, etc.), it is not necessary to strain the eyes under the illumination of the recommended 15 W., greenish yellow lamp, kept 4 feet from the paper.

A 60 W. ruby red lamp may be safely used at a distance of 1½ or 2 feet, development may be carried on as long as several minutes without fogging the paper.

★ On one type of camera, the compensating glass mounting, just above the lens of the camera, sometimes slips down, permitting the compensating lens to form a flat angle over the camera lens. This reflects light to the negative and forms a blanked-out spot where the reflection falls.

Spoiled negatives resulted, until it was found that a strong rubber band served as an excellent retainer, one end of the loop being anchored to a screw above the compensating lens, the other to one of the prongs holding said lens at a fixed point when in use over the camera lens.

★ The "B," or green, filter makes short work of tough purple inked originals, whether typed or printed, using orthochromatic film.

K-2 seems to have an intensifying influence upon certain shades of gray.

★ One photographer solved the lack of a vacuum frame in his darkroom very economically. Upon finding that the platemaking department's vacuum frame was run from an attached, large air container (home-

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Types and Graphic Equipment Inc.   
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before you buy  
your next press!**

See page 102

## DOT ETCH PROCESS Color Plates

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Special purpose equipment for the  
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CONSULT US ON YOUR PARTICULAR PROBLEM

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made), he took a length of rubber hose of small inside diameter, ran it along a partition top from plate-room to darkroom, and connected it to a reasonably priced table-top type vacuum frame. It was found that this arrangement took care of the camera department's limited requirements for contact work until a more elaborate contact frame could be purchased at a later date.

★ Less use of white light in a darkroom will help protect the eyes from fatigue and strain. Constant adjustment of the eye-muscles from the wavelength of red light to that of white can be more fatiguing than keeping them accustomed to one color alone.

★ Contact papers, such as Azo, Opal G, etc., can be developed in the contrast developers normally used for line and halftone negatives.

An Azo No. 3 grade paper, for instance, will produce deep, sharp blacks in all halftone dots when a halftone negative is exposed to this grade of contact paper.

Opal G, which is used mainly for enlarging, will produce very attractive olive tones, though somewhat soft dots, especially those in highlights. This paper can also be used for fast contact exposures—about 2 seconds when continuous tone negatives are used, from a 100 W. lamp  $4\frac{1}{2}$  feet away. Of course, a contrast developer is not used for this particular purpose.

Halftone negatives, shot from unusually striking originals, have been exposed to Opal G paper, developed in contrast developers and framed for display in the office of one printing employer.

★ Habitual use of a strip of gray scales, laid next to material in the copyboard preparatory to screening, helps immeasurably in comparing tonal values of original and the halftone negative, and prevents much of the misjudgement resulting during development. ★★

★ Should a last minute job come into the photographic department, often it is better to expose the film only, without developing it. Usually developer, unless refreshed, is pretty

close to oxidization by the end of the day, and it is not advisable to use it any longer. It is not always good economy to spill out a fresh supply for a few negatives only and have it spoil overnight.

Develop them first thing in the morning, and thus make it possible to use the fresh supply of developer for more film.

#### A Test for Water in Alcohol

From material prepared for the current issue of "Research Progress", published by the Lithographic Technical Foundation.

As every deep-etch platemaker knows, anhydrous (without water) alcohol is essential to make good deep-etch plates. Ordinary denatured alcohol is approximately 6 per cent water which is enough to soften the stencil. It can allow penetration and may also cause a blind image.

If anhydrous alcohol is not stored properly, it will pick up water from the air. It does this whenever the stopper is out of the bottle or is not in tight.

Regardless of the cause, a very simple test will tell you if there is any water in the alcohol you are using. All you need to do is mix one part of the alcohol in 20 parts of any straight petroleum solvent. Such solvents include gasoline, benzine, naphtha, Stoddard solvent, and distillate.

Then shake the mixture thoroughly. If there is any water present, it will separate and the mixture will be cloudy. If the mixture stays clear, the alcohol has no water in it.

Before you put the alcohol in the solvent, check the solvent to make sure it is clear and free from water. If there is a lot of water present, it will form droplets that settle to the bottom. A little water (like the 6 per cent in ordinary alcohol) will make a clear solvent turn cloudy. ★★

#### Correction

In the New Equipment and Products section, Dec., Pg. 84, the address of the Filmotype Corp. contained a typographical error. The correct address is 60 West Superior St., Chicago 10, Ill. The company announced a device for setting type photographically.

# DO YOU KNOW...

## 1 Why Gummed Paper lies flat?

How to easily raise  
2 relative humidity  
in a medium-sized  
print shop?

## 3 Can Gummed Paper be run satisfactorily on an Offset Press?

*Perfection  
HAS THE ANSWERS*

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Flat Gummed Paper  
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If he doesn't stock  
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Use "Business Form Creations," a NEW service that saves you time and money by composing reproduction copy ready for the camera—using draftsman's tools and Vari-typers.

B.F.C. needs only the rough sketch of the form you want.

\* For free samples  
and information folder . . .

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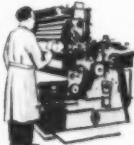


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### RUBBER ROLLER WASH R228

with **RESILUM**



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### NON-TOXIC ANCHOR TYPEWASH

DISSOLVES ALL THE  
INK—FASTER!

Power-Packed, speedily whisks away the hardest, toughest dried ink from type, plates, electros, fountains, etc. Harmless to use—contains no benzol, no wood alcohol.



See your dealer today—get them right away!

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CHINESE SECTION

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OVER SIX HUNDRED LANGUAGES

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1947

TYPEGRAPHIC SERVICE CO., INC.

## Trade Events

Technical Assn. of the Graphic Arts, annual meeting, Carter Hotel, Cleveland, May 5-6.

National Assn. of Litho Clubs, annual convention, Ben Franklin Hotel, Philadelphia, May 16, 17.

Lithographers National Assn., annual convention, The Greenbrier, White Sulphur Springs, W. Va., June 10-13.

International Assn. of Printing House Craftsmen, annual convention, Jefferson Hotel, St. Louis, Aug. 10-13, 1952.

Printing Industry of America, annual convention, Chase Hotel, St. Louis, October 12-18.

National Assn. of Photo-Lithographers, annual convention and exhibits, Edgewater Beach Hotel, Chicago, October 15-18.

National Metal Decorators Assn., annual meeting, Shamrock Hotel, Houston, Tex., Oct. 27-30.

## Litho Schools

CANADA—Ryerson Institute of Technology, School of Graphic Arts, 50 Gould St., Toronto, Ont., Canada.

CHICAGO—Chicago Lithographic Institute, Glasser House, 1800 S. Prairie Ave., Chicago 16, Ill.

CINCINNATI—Ohio Mechanics Institute, Cincinnati, Ohio.

LOS ANGELES—Los Angeles Junior College, 1636 S. Oliver St., Los Angeles 15, Calif.

MINNEAPOLIS—Dunwoody Industrial Institute, 818 Wayzata Blvd., Minneapolis 3, Minn.

NASHVILLE—Southern School of Printing, 1514 South St., Nashville, Tenn.

NEW YORK—New York Trade School, Lithographic Department, 312 East 67 St., New York, N. Y.

OKLAHOMA—Oklahoma A & M Technical School, Graphic Arts Dept., Okmulgee, Okla.

ROCHESTER—Rochester Institute of Technology, Dept. of Publishing & Printing, 65 Plymouth Ave., South, Rochester 8, N. Y.

PITTSBURGH—Carnegie Institute of Technology, Dept. of Printing Administration, Pittsburgh.

SAN FRANCISCO—San Francisco Printing Trade School, San Francisco, Calif.

SAN FRANCISCO—City College of San Francisco, Ocean and Phelan Aves., Graphic Arts Department.

ST. LOUIS—David Ranken, Jr. School of Mechanical Trades, 4431 Finney St., St. Louis 8, Mo.

WEST VIRGINIA—W. Va. Institute of Technology, Montgomery, W. Va.

## Trade Directory

Lithographic Tech. Foundation  
Wade E. Griswold, Exec. Dir.  
133 East 39 St., New York 16, N. Y.

National Association of Photo-Lithographers  
Walter E. Soderstrom, Exec. Sec'y.  
517 West 45 St., New York 19, N. Y.

Lithographers National Association  
W. Floyd Maxwell, Exec. Dir.  
420 Lexington Ave., New York 17, N. Y.

National Assn. of Litho Clubs  
Joseph H. Winterburg, Sec'y.  
622 Race St., Phila. 6, Pa.

Printing Industry of America  
James R. Brackett, Gen. Mgr.  
719 15th St., N. W., Washington 5, D. C.

International Assn. of Printing House Craftsmen  
P. E. Oldt, Exec. Sec'y.  
18 E. Fourth St., Cincinnati 2

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# TALE ENDS

**A**NOTHER in the series of "Litho Rhymes" featured in advertisements of Ray Burns, lithographers of Los Angeles, is reproduced here-with in the interest of literature and culture and things like that.

It isn't true that Ray Burns' crew  
Are downright superhuman  
Or that they munch when eating lunch  
On chicken-fried albumin.  
We disregard the foul canard  
They cut their childish molars  
On bits of old press blankets and  
Discarded inking rollers.  
We here deny the rumor sly  
(no falsehood could be meaner)  
That Ray Burns people wash and bathe  
In dampener-roller cleaner.  
Or that the strains within their veins  
(say tricksters slinging mud)  
Are litho inks in scarlet-pinks  
Instead of human blood.  
Now, we're no fools altho from schools  
At tender age we parted;  
To one who's sane it's very plain  
Just how these yarns got started.  
A job of Burns' lithography  
Makes buyers gape and chortle;  
And anyone might think 'twas done  
By workers more than mortal.  
But take our word, that's for the birds;  
The answer, day or night  
Is that no job can leave Burns' shop  
Until that job is *right*.  
There's no "it could" or "almost good"  
Inside these hallowed portals.  
And if that makes us supermen,  
Okay, then, we're immortals!

★

In the *Chicago Tribune*, Sunday, December 9, another notable first was achieved in the field of color advertising. The many lithographers in that area no doubt saw the double page four-color spread for Eastern Airlines. It was the first such spread ever used by a transportation company. But of more interest to the graphic arts — the plates were made from negatives produced with an electronic scanner. Original copy was art work, and Ektacolor transparency negatives and positives were made, and many intermediate tones dropped out to meet the requirements of newspaper printing.

★

Dan J. Casey, Jr., head of the New York printing equipment firm bearing his name, is serving as head of the

Printing Machinery Division of the New York Polio fund campaign.

★

Ed Morast, Pikes Peak Lithographing Co., Colorado Springs, Colo., now is serving as chairman of the manufacturers division of the Chamber of Commerce, that city.

★

The 1951 Christmas card sent out by Ideal Roller was the 20th of a series designed for the company and

depicting the print shop and small newspaper plant in many phases. A colored cartoon was the feature illustration this year.

★

We received a colorful array of Christmas cards from many friends, and we would like to thank each person individually. Since our travel time doesn't permit this, we are doing it here in print. Thanks. Also throughout 1952 we will keep on remembering the many lithographed calendars received in recent weeks. Many of these lush pictorial reproductions are finding their way into framed spots on living room walls.★★

## Greetings



**O**UR old pal, Cuthbert, has received his draft "greetings" from Uncle Sam! His services are needed. Just as any firm with a specific industrial advertising job to do, needs the services of good business publications. For example, if the job be to blanket the field of lithography, naturally they would call on

**MODERN LITHOGRAPHY**  
175 FIFTH AVE. NEW YORK 10, N. Y.

Member, Audit Bureau of Circulations

# PLAN FOR QUALITY

If you're being stumped by competition,

try producing your printed matter

not the cheapest, but the best way

... on genuine coated paper from the Cantine mill.

#### Letterpress

HI-ARTS  
ASHOKAN  
ZENA  
CATSKILL  
CANFOLD  
M.C. FOLDING  
VELVETONE  
SOFTONE  
ESOPUS TINTS  
ESOPUS POSTCARD

#### Offset-Litho

HI-ARTS LITHO C.15.  
ZENAGLOSS OFFSET C.25.  
LITHOGLOSS C.15.  
CATSKILL LITHO C.15.  
CATSKILL OFFSET C.25.  
ESOPUS POSTCARD C.25.

## Cantine's Coated Papers

THE MARTIN CANTINE COMPANY, Saugerties, N. Y.

Specialists in Coated Papers since 1888. Sold by leading merchants.

Branches: New York and Chicago. (In Los Angeles and San Francisco: Wylie & Davis)

A NEW BLANKET WASH

A NEW BLANKET WASH

- **QUICK**
- **EASY**
- **SAFE**
- **BETTER**

HARRIS-SEYBOLD

### HARRIS LITHWASH

takes the hard work out of blanket washup

**QUICK** — one application removes glaze, ink and stains from blankets

**EASY** — no scrubbing with pumice . . . even hardened ink dissolves readily

**SAFE** — has higher flash point — (does not need ICC red label)

**BETTER** — lengthens life of blankets and rubber rollers — keeps texture lively

**HARRIS**  
Litho-Chemicals

**LITHWASH**  
(Formula D-4177)  
A SUPERIOR CLEANER FOR  
BLANKETS AND RUBBER ROLLERS  
COMMERCIAL, 1 GALLON

HARRIS-SEYBOLD COMPANY

*Warning:*  
DO NOT USE FOR  
CLEANING VULCANIZED  
OIL ROLLERS  
Lithwash, while in  
flammable, has a suffi-  
ciently high flash point  
that it does not require  
a red "Caution" label.  
In case of fire, use water or  
foam extinguishers.

BATCH NO. 10932

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Harris-Seybold Company  
Manufacturers of Litho-Chemicals  
for Commercial and Industrial  
Applications